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PROCEEDINGS

OF THE

ZOOLOGICAL SOCIETY OF LONDON.

January 12, 1841.

In consequence of there not being a sufficient number of Members present to constitute a quorum, the Meeting was adjourned to January the 26th.

January 26, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

Letters from E. L. Moore, Esq., and Augustus Elliott Fuller, Esq., were read.

A letter from Sir Edward Cust was next read. This letter contains a description of a species of *Holothuria*, presented by Sir E. Cust to the Society, obtained at the island of Porto Rico, and remarkable for its leopard-like markings.

A continuation of Mr. G. B. Sowerby's descriptions of new species of shells, collected by H. Cuming, Esq. in the Philippine Islands, was next read.

Helix monochroa. *Hel. testâ suborbiculari, tenuiusculâ, subpallescente brunneâ, haud nitente; spirâ mediocri; anfractibus quatuor, ventricosis, rugulosis, ultimo maximo, cæteris multò majori; fasciis binis medianis saturatioribus, binis pallidioribus; suturâ distinctè impressâ; aperturâ subelliptico-semilunari, intus albâ; labio externo latiusculo, rotundato-reflexo, extùs subfusco; labio interno tenuissimo, columellari subdilatato, umbilicum mediocrem partim tegente.*

Long. 1·3, lat. 2· poll.

Hab. ad insulam Tablas dictam.

This species appears to be very distinct from any of those given by De Férussac, as well as from the *Helix Cailliaudi* of Deshayes, with which I have compared it. Besides the rugulosities which cover the external surface, oblique lines of growth are easily distinguishable, which are stronger near the suture.

Helix chlorochroa. *Hel. testâ globoso-suborbiculari, tenuiusculâ, pallidè brunneâ, haud nitente; spirâ elevatiusculâ; anfractibus* $4\frac{1}{2}$, *ventricosis, lævibus; striis solùm incrementi tenuibus insculptis, ultimo maximo, cæteris multò majori; fasciâ unicâ albidâ medianâ; suturâ distinctâ; aperturâ rotundato-sublunari, intùs albâ; labio externo rotundato-reflexo, fuscescente, interno tenui; labio columellari lato, albicante, subsinuoso, profundè ineunte; umbilico nullo.*

Long. 1·6, lat. 2· poll.

This species bears a general resemblance to the last, though it may easily be distinguished by its more elevated spire and the absence of an *umbilicus*. Besides the lighter-coloured band, the shell is usually mottled with paler light-brown markings. A variety occurs of a much darker colour, but similarly marked.

Helix Sphærion. *Hel. testâ globoso-orbiculari, tenui, lævi, unicoloris, haud nitens; spirâ brevi, paululùm elevatâ; anfractibus quatuor, ventricosis; striis solùm incrementi, tenuibus insculptis, ultimo maximo, cæteris multò majore; suturâ lineâ albâ distinctâ; aperturâ rotundatâ, anfractu ultimo tenuiter modificatâ, intùs albicante; labio externo fuscescente, anticè paululùm reflexo; labio columellari albo, latiusculo, profundè ineunte.*

Long. 1·3, lat. 1·6 poll.

Hab. supra folia arborum propè Tanauan ad insulam Leyte dictam Philippinarum.

This species is most like *H. Coccomelos*, but may be distinguished from that by its thin, scarcely reflected outer lip. Two varieties in colour have been found, one of which is of a very dark chocolate-brown, and the other of a pale yellowish brown. Another variety, very much resembling this last, has been found at Lobock, in the island of Bohol, which differs only in the lip being rather more reflected.

Helix mirabilis, De F. *Hel. testâ subglobosâ, imperforatâ, lævi, nitidâ, candidâ, epidermide olivaceo-lutescente indutâ; spirâ elevatiusculâ, obtusâ; anfractibus* $4\frac{1}{2}$ *rotundatis, ultimo maximo, plerumque fasciis duobus rufo-fuscis cincto; suturâ distinctâ; aperturâ subobliquâ, elliptico-rotundatâ; peritremate albo, latiusculo, reflexo; columellâ albâ, latiusculâ, anticè sinuatâ; labio interno tenui.*

Long. 1·6, lat. 1·3 poll.

Hab. supra folia arborum propè Albay, provinciæ Albaiensi ad insulam Luçon Philippinarum.

Syn. *Helix galactites*, Lam. (Hist. Nat. des Anim. sans Vert. vi. part 2, p. 69. April 1822).

Helix mirabilis, De Férussac (Hist. Nat. gen. et part. des Mollusques Terr. et Fluv., t. 31, f. 4, 5, 6. 1819).

A representation of this fine species, without the *epidermis*, was published by De Férussac in 1819, under the name of *Helix mirabilis*; his name is therefore here adopted. But Lamarck in 1822, although he quotes De Férussac's name and plate, has given it the name of *H. galactites*, which of course must give way to De Férussac's.

It appears extremely probable that both Lamarck and De Férussac have confounded with this species a variety of *Helix metaformis*, De F., the latter author having figured a var. of that species under the name of *H. mirabilis*, var. See his Tab. 104, f. 6 et 7, and Lamarck, describing his var. β. as "*testâ supernè in conum elongatâ*."

"I must here acknowledge my obligations to M. Valenciennes, who has informed me in a note that the species I have described under the name of *decipiens* is identical with this species, *H. mirabilis*, De F. I suspect that he may be right in his opinion, and will take the earliest opportunity of re-examining all the varieties of both, together.

"At present I will proceed to describe the principal varieties which have occurred to Mr. Cuming, and which are unquestionably referable to the *mirabilis* of De F."

a. Shell rather thick and strong, with three dark bands, one of which is close to the suture, and much narrower than the others.

b. Shell very thin, with bands similar to the last.

c. Shell with the spire much produced, and with three dark bands, of which the middle one is very slender.

d. Shell very thin, with a narrow sutural band, and a broader circumferential band.

e. Shell thick and strong, with only a very narrow antesutural band.

f. Shell thin, and entirely destitute of bands.

HELIX FULGENS. *Hel. testâ globoso-pyramidali, crassiusculâ, imperforatâ, lævi, nitidâ, albidâ; spirâ prominulâ, obtusâ; anfractibus 4½ ventricosis, castaneo-nigroque fasciatis; lineis incrementi tenerrimè insculptis; aperturâ suborbiculari, intùs albâ; fasciis nigris subconspicuis; peritremate reflexo, albo; columellâ latiusculâ, albâ, profundè ineunte.*

Long 1·5, lat. 1·15 poll.

Hab. ad Puerto Galero insulæ Mindoroensis Philippinarum.

Two principal varieties of this brilliant species have been found by Mr. Cuming; the one has black and chestnut-coloured bands, beautifully relieved on a light-coloured ground, and the other has the posterior part of each volution nearly white, one dark band close behind the circumference, and three close-set dark bands in front.

HELIX CHRYSOCHEILUS. *Hel. testâ subglobosâ, crassiusculâ, lævi, nitidâ, imperforatâ; spirâ mediocri, obtusâ; anfractibus quinque, ventricosis; lineis incrementi tenuitèr insculptis, epidermide pallescente indutis; aperturâ suborbiculari, intùs albâ; peritremate incrassato, reflexo, aurantiaco; columellâ latiusculâ, aurantiacâ, profundè ineunte; labio interno tenui.*

Hab. supra folia arborum ad Banqui provinciæ Ilocos septentrionalis ad insulam Luçon Philippinarum.

A very beautiful species, and apparently very distinct from any that have hitherto been noticed. It is extremely rare.

Prof. Owen read his description of a new genus and species of sponge, which he proposes to name *Euplectella Aspergillum*.

"Mr. Cuming has entrusted to me for description," says the author, "one of the most singular and beautiful, as well as the rarest of the marine productions with which his researches in the Philippine Islands have enabled him to enrich the zoological collections of his native country. This production is, however, a member of the very lowest class of the animal kingdom, if even it be permitted to rank in that division of organized nature. After repeated examination and much reflection, I can arrive at no other conclusion than that the object about to be described is the skeleton or framework of a species of sponge belonging to that division of the class called Horny, in opposition to the calcareous and siliceous groups, and to the Alcyonoid family. It is a hollow, cylindrical, slightly conical, and gently curved case or tube, resembling a delicate cornucopia, with the apex removed. It measures eight inches in length, two inches across the base, and one inch and a quarter across the apex, which is truncated. The base or wider aperture of the tube is sub-elliptical, and is closed by a cap of coarse and somewhat irregular network, gently convex externally, the circumference of which is divided from the walls of the cylinder by a thin projecting plate, standing out like a ruff or frill. This marginal plate varies in breadth from one to three lines. The parietes of the circular cone consist also of a network of coarse fibres, but these exhibit the greatest regularity of disposition, and intersect each other at definite and nearly equal distances throughout the course of the cone. They consist of longitudinal, transverse, and oblique fibres, the latter being of two kinds, winding spirally round the cylinder, but in opposite directions. The strongest fibres are the longitudinal and transverse ones, which are arranged at intervals of about a line and a half, and mark out regular square spaces of the same diameter: these spaces are kept of pretty equal size throughout the cone, from the circumstance of the longitudinal fibres diminishing in number as the cone decreases in size; the mode of diminution is not, however, by abrupt termination, but by the gradual convergence and final interblending of two contiguous longitudinal fibres, and the regularity of the interspaces is therefore disturbed at the intervals of such converging fibres. The fibre resulting from this union of two fibres bears a proportionate thickness to the additional material entering into its composition. The nature of such material is demonstrated at the apex of the cone by the resolution of the longitudinal fibres into their component filaments, each of them dividing at about two thirds of an inch from their extremity into a fasciculus or pencil of extremely delicate, stiff, glistening, elastic threads, resembling the finest hairs of spun glass. The transverse fibres, in like manner, are resolved at the truncated apex of the cone into their component filaments, which intersect those proceeding from the longitudinal fibres, as well as similar pencils from the oblique filaments, the whole forming an irregular silky tuft, which almost closes the apical aperture of the cone.

"The longitudinal fibres are external to the transverse ones, to which they are connected by both the spiral fibres, and by smaller and less regular intersecting fibres at the angles of the squares; the area of each square is thus reduced more or less to a circular form: at about one or two inches from the apex, these connecting reticulate fibres begin to rise in the form of narrow ridges from the general surface of the network, and sooner on the convex than on the concave side of the bent cone. These ridges at first are short and interrupted; they are then more extended, but irregular in their course, some being transverse, others undulated or curved; but as they approach the base of the cone they are continued into broader ridges, which follow, with more or less regularity, the course of the oblique spiral fibres; the broadest of these ridges would measure two lines and a half. Their structure presents an extremely fine and irregular network, disposed, for the most part, in two plates, which converge as they recede from the general wall of the cone, and terminate in a sharp and well-defined edge. The component fibres of these reticulations, like those of the main network, are resolved into the fine silky filaments above mentioned. The fibres of the coarse irregular network which closes the basal aperture of the cone, and which constitutes the main characteristic of this Alcyonoid sponge, appear to be directly continued from, and, as it were, to include all those which enter into the composition of the longitudinal, transverse and oblique fibres of the wall of the cone; the frill-like ridge above described defining the line of transition from the one to the other. The inner surface of the reticulate parietes of the cone is even; not interrupted by any ridges or processes like those on the outer surface. The number of the longitudinal filaments at the base of the cone is 60; that at the smaller end, where they begin to resolve themselves into their constituent filaments, is 30. The diameter of the longitudinal fibres is about $\frac{1}{40}$th of an inch; that of the transverse fibres is somewhat less. The oblique fibres, where they are most regular, average $\frac{1}{60}$th of an inch; the longitudinal fibres, where they begin to resolve themselves into their component filaments, expand in the direction of a line passing to the centre of the cone, and not in the direction of the plane of its circumference; maintaining, in the latter respect, nearly the same breadth to their entire unraveling; whilst in the other dimension they equal one line in breadth before they are wholly decomposed. Small portions of a finely reticulate plate were loosely attached to some parts of the internal surface. The fibres of these pieces consisted of minute filaments, irregular in their course, branching, anastomosing, and sending off abrupt processes like thorns. The component filaments of the parietal fibres are of two kinds; the one simple, cylindrical, and smooth; the others barbed at pretty regular distances through their whole course, like the hair of certain caterpillars. I have also observed a long filament, simple at one extremity, and becoming barbed at the other. They consist of material like the dried gluten of marine plants, containing a small proportion of azote, and burning away to a charry residuum.

"If the basal aperture of the cone were open, the resemblance to many of the beautiful reticulate Alcyonoid sponges would be very close: its closure by the reticulate convex cap, in the present instance, establishes the generic distinction; and in the exquisite beauty and regularity of the texture of the walls of the cone the species surpasses any of the allied productions that I have, as yet, seen, or found described."

A letter from G. T. Vigne, Esq. was read. In this letter, at the request of the Society's Curator, Mr. Vigne furnishes the following list of Birds constituting part of a collection this gentleman had formed during his travels in Thibet, Cashmere, &c.

Aquila Bonelli, Gould. Cashmere and Lower Himalaya.
Buteo —— ? Cashmere.
Accipiter fringillarius, Ray. Cashmere.
Falco biarmicus ? Temm. } Common in the plains under the Alpine
—— *Chicquera* ? Lath. } Panjab.
Athene Cuculoïdes, Gould. In the Alpine Panjab.
Caprimulgus Asiaticus, Lath. Plain of Attok.
Merops Apiaster, Linn. Cashmere and Persia.
Alcedo Bengalensis, Gmel. Cashmere.
—— *Smyrnensis*. Alpine Panjab.
Phœnicornis brevirostris, Vig. *Ib.*
Muscipeta castanea, Temm. *Ib.*
Turdus atrogularis, Temm. *Ib.*
Oriolus galbuloïdes, Gould. *Ib.*
Ixos leucogenys (*Brachypus leucogenys* of Hardwick and Gray's 'Indian Zoology'). Cashmere.

Note.—An allied species, differing in having red instead of yellow under the tail, is found in the plains of India.

Ianthocincla variegata, Gould. Alpine Panjab.
Petrocincla saxatilis, Vig. *Ib.*
—— *Pandoo*, Sykes. *Ib.*
Enicurus maculatus, Vig. Cashmere.
Phœnicura leucocephala, Vig. *Ib.*
Motacilla lugubris, Pall. *Ib.*
Coccothraustes Icteroïdes, Vig. Alpine Panjab.
Pastor Mahrattensis. *Ib.*
Garrulus lanceolatus, Vig. *Ib.*
Fregilus graculus, Cuv. Himalaya tops; Little Thibet.
Nucifraga hemispila, Vig. Cashmere.
Cuculus micropterus, Steph. Cashmere.
Dendrocopus Himalayanus. Alpine Panjab.
Picus nuchalis, Wagl. *Ib.*
Chrysoptilus squamatus, Swains. *Ib.*
Bucco grandis, Linn. *Ib.*
Tichodroma phœnicoptera, Temm. Cashmere, Alpine Panjab, and Little Thibet.
Columba leuconota, Vig. Thibet mountains.
Turtur auritus, Ray. Alpine Panjab.
Phasianus Stacei, Vig. Chumba.
—— *albocristatus*, Vig. Alpine Panjab.
—— *Pucrasia*, Vig. *Ib.*
Lophophorus Impeyanus, Vig. Cashmere and Himalaya.
Tetraogallus Nigellii, Gray. Snow range, Cashmere and Little Thibet.
Pterocles arenarius, Temm. Plains of Panjab.
Francolinus vulgaris, Gould. Alpine Panjab and Indus.
Perdix Chukar, Lath. Thibet.
Coturnix Sinensis. India and Panjab.

Ardea cinerea, Lath. Panjab.
Ibis Falcinellus, Cuv. Little Thibet.
Scolopax rusticola, Linn. Dodah, near Cashmere,
Note.—A second species, nearly allied to the *Scolopax major*, Linn., is found in Cashmere.
Totanus ——? Thibet.
Parra Sinensis, Lath. Cashmere.
Querquedula Crecca, Steph. *Ib.*
Fuligula Nyroca, Steph. Little Thibet.

Mr. Vigne's letter also contains the following notes, relating to a species of Hare from Little Thibet, which was exhibited to the Meeting, and which he had presented to the Society:—

"The Hares of Little Thibet, which is a barren country, are found almost exclusively within, or within reach of, sandy valleys, through which a stream flows, creating on its flat banks just verdure enough for them to feed upon. They lie in forms, under rocks and stones; sometimes, when pursued, will take to any natural hollows beneath them, and are occasionally, and, in fact, frequently, sheltered by the thick bushes of *Tartarian furze*, with which the valleys of Little Thibet abound, more or less. They do not burrow, but scratch away a deep form under a stone or rock. In some respects this species resembles the Alpine Hare, but the latter has a small ear, whilst the present animal has a very large, broad, and open ear. I never heard that these Hares were gregarious, excepting from the necessity of seeking the same places in quest of food, and those being few and far between. The nature of the country would prevent any migration, such as that of the Alpine Hares.

"I never heard it utter any peculiar cry, and should think it not unlikely that the varieties said to exist in Tartary by Bewick, and to *whistle* sharply, like the chirping of a sparrow, must be the large Drun (?) or Thibetian Marmot, of which Jacquemont says he received a skin, and of which I and Dr. Falconer also have seen plenty. I had the skeleton of one, but unfortunately lost it."

Mr. Vigne moreover observes, that there are no Hares in Cashmere, though it is a country which appears to be particularly fitted for them; neither are there any gray or black Francolins, though all are found within four or five days' march of the Valley.

The Hare exhibited, Mr. Waterhouse observed, was an undescribed species, and he proceeded to characterize it under the name of

Lepus Tibetanus. *Lep. cinereus, pilis flavescenti-albo nigroque annulatis; abdomine albo; pedibus suprà sordidè albis, subtùs sordide flavescenti-fuscis, pilis densis indutis; caudâ mediocri, albâ, suprà nigricante; auribus longis, ad apicem nigricantibus: nuchâ sordidè albâ, indistinctè fulvo-lavatâ.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	18	0
———— *caudæ*	4	6
———— *tarsi*	5	0
———— *auris*	4	6
———— ab apice rostri ad basin auris	3	8

The Thibet Hare, compared with most other species of the genus, is most remarkable for its pale grayish colouring, and the almost total absence of brown or yellow tints in its fur. On the upper parts of the body the fur is of a pale gray hue next the skin; the hairs are blackish beyond the middle, and at the point, and broadly annulated with white or cream colour near the point; but interspersed with the ordinary fur on this part of the body are numerous hairs which are white at the base, though annulated like the others on the apical portion. The fur on the chest is also pale gray at the base, but externally it has a faint fulvous hue, though it might almost be described as dirty white, and the *occiput* and back of the neck are of the same hue. On the belly the fur is white, even next the skin. The legs and feet are almost white; a slight ashy tint is observable on the outer side of the hinder pair; they are rather densely clothed with fur, and that on the under side is of a yellowish-brown hue, but not very dark. The ears are very large, and well clothed with hairs; on the outer part, in front, these hairs have the same colouring as those on the back of the animal, but on the hinder part they are white, or nearly so, and the apical portion of the ear is broadly margined with black.

The skull, compared with that of the common Hare, differs, in being much smaller, and proportionally narrower; the upper incisors have the groove rather more near the middle of the tooth. Following are the principal dimensions of the skull:—

	in.	lin.
Total length	3	4
Width	1	7$\frac{1}{8}$
Width between orbits	1	0
Length of nasal bones	1	5
Width at base	0	8
Length of bony palate	1	2$\frac{1}{3}$

Mr. Gould exhibited and characterized a new species of *Himantopus*, which he had received from New Zealand.

HIMANTOPUS NOVÆ ZELANDIÆ. *Him. fuliginoso-niger, dorso, alis caudâque nitore virescente tinctis. Exempla, fronte, loris, mento, collo anticè, et ad latera, sic et pectore crissoque albis, nonnunquàm obveniunt.*

The whole of the plumage sooty black, with the exception of the back, wings and tail, which are glossed with green: examples sometimes occur with the forehead, lores, chin, front and sides of the neck, chest, and under tail-coverts white; bill black; feet pink-red.

Total length, 16 inches; bill, 3; wing, 9$\frac{1}{4}$; tail, 3$\frac{1}{2}$; tarsi, 3$\frac{1}{4}$.

This bird is interesting, not so much for its beauty, but as adding another species to the very limited genus *Himantopus*, of which, until lately, only one was known. Mr. Gould regretted that no other information accompanied the specimens than that they were killed at Port Nicholson. From the great difference in their colouring it might be supposed that they are distinct, but he inclines to believe that they are either the result of age or season; in all probability the black plumage is that of summer.

February 9, 1841.

William Horton Lloyd, Esq. in the Chair.

A letter from Dr. M'Clelland, of Calcutta, Corr. Memb., was read. It states that Dr. M'Clelland had forwarded for the Society a pair of Java Pea-fowls; these having been brought from Chittagong by C. W. Smith, Esq., who expressed a desire to present them to the Society. Dr. M'Clelland also states, that he shall endeavour to procure for the Society a pair of the Jungle Pea-fowl of India.

A letter from P. C. Blackett, Esq., dated January 27, 1841, was next read. It relates to the parent stock of the domestic Dog (*Canis familiaris* of authors), and gives some account of the habits of the European Wolf. The pups of this animal, it is said, were considered valuable about sixty or seventy years back, and that they were easily domesticated, and became as familiar and attached to their master as the common domesticated Dog.

A monograph on the genus *Nematoptera*, by J. O. Westwood, Esq., F.L.S., was read.

In this monograph numerous new species are added to those already characterized by Dr. Klug and others. The genus *Nematoptera* (*Nemoptera*, Latr) was placed by its founder, Latreille, in the family *Panorpidæ*, owing to the rostrum being elongated as in that family; but Mr. Westwood agrees with Drs. Klug and Burmeister, in arranging the species in the *Hemerobiidæ*, since they agree with this family, not only in the structure of the mouth, but also in the general arrangement of the nervures of the wings.

Following are the chief characters of the species:—

Sectio 1ma.

Alæ anticæ latissimæ ovatæ, coloratæ, serie duplici vel triplici cellularum in area anali.

Sp. 1. Nematoptera Petiveri. *Nem. alis anticis ovatis, pallidè flavis; fasciis quatuor sinuatis; costa ad basin immaculata; macula oblonga ante mediam, altera media tertiaque subapicali, nigris, punctisque nonnullis versus marginem internum et in discum alæ ejusdem coloris.*

Expans. alar. antic. 2—2$\frac{1}{4}$ unc. Long. alar. postic. 1$\frac{3}{4}$—1$\frac{5}{6}$ unc.

Syn. The Feather-tailed Smyrna Adderbolt, *Petiver*, Gazoph. tab. 73. f. 11.

Phryganea e Moldavia, *Linnæus*, Kongl. Vetensk. Handl. 1747. p. 176—178. tab. 6. fig. 1.

Ephemera Coa, *Hasselquist*, Iter Palæstinum, p. 423. (1757).

Panorpa Coa, *Linnæus,* Syst. Nat. Edit. x. Ditto, Edit. xii. vol. ii. p. 915. *Fabricius,* Syst. Ent. p. 314. Ent. Syst. Suppl. p. 208.

Panorpa halterata, *Fabr.* Mantiss. Ins. p. 251.

Nemoptera sinuata, *Olivier,* Enc. Méth. viii. p. 178. *Lamarck,* Hist. Nat. iv. p. 419. *Klug,* Monogr. Panorp. p. 13. No. 2.

Sp. 2. Nematoptera Coquebertii. *Nem. alis anticis latissimè ovatis, pallidiori-flavescentibus; fasciis tribus valdè sinuatis; costa in areas angustas divisa, singula area linea obscura notata, macula media costali, altera intermedia, 3tiaque versus apicem costæ obscuris; disco et basi punctis numerosis nigris; areaque anali lata duplici serie punctorum et unica strigarum nigrarum.*

Expans. alar. antic. $1\frac{2}{3}$—$1\frac{5}{6}$ unc. Long. alar. postic. $1\frac{1}{2}$ unc.

Syn. Panorpa Coa, *Coquebert,* Illustr. iconogr. i. p. 15. tab. 3. fig. 3.

Nemoptera Coa, *Olivier,* Enc. Méth. tom. viii. p. 178. *Klug?* Mon. Panorp. p. 12. No. 1. *Burmeister?* Handb. d. Entomol. ii. p. 987.

Nemoptera lusitanica, *Rambur.* Faune Andal. tom. ii. pl. 9. f. 1.

The extraordinary breadth of the fore-wings (which are as broad as those of the preceding species, although of considerably less expanse) is alone sufficient to distinguish this from the two other species of this Section.

Sp. 3. Nematoptera bipennis. *Nem. alis anticis latis, margine antico ferè recto; lætè flavis, brunneo variis; punctis numerosis fasciisque tribus valdè sinuatis brunneis ornatis; costa in cellulas quadratas divisa; singula cellula puncto rotundo notata; macula oblonga paullò pone medium costæ apiceque toto brunneis, et in hoc apice macula parva subcostalis elongata alteraque magna ovalis, area anali serie unica punctorum alteraque strigarum.*

Expans. alar. antic. 2—$2\frac{1}{8}$ unc. Long. alar. postic. $1\frac{3}{4}$—$\frac{9}{10}$ unc.

Syn. Panorpa bipennis, *Illig.* Ahrens Faun. Ins. Eur. i. 16.

Nemoptera lusitanica, *Leach,* Zool. Misc. ii. tab. 85. fig. *sup.* *Klug,* Monogr. Panorp. p. 13. *Burmeister,* Handb. d. Ent. ii. p. 987. Nec *Rambur.* Faun. Andalusia. ii. pl. 9. f. 1.

Nemoptera Coa, *Latr.* Hist. Nat. Crust. et Ins. t. xiii. pl. 97. bis fig. 2. Gen. Crust. iii. p. 186. *Savigny,* Descr. de l'Egypte, Neur. pl. 2. fig. 15.

Diptita lusitanica, *Hoffm.* MSS. quoted by Leach.

This species (to which I have restored Illiger's specific name, which has been overlooked by all subsequent authors, although several years prior to Leach's) is at once distinguished from the two preceding species by the shape of the fore-wings, of which the anterior margin is almost straight, at least for two-thirds of the length of the wing; they are consequently not so greatly dilated as in the two preceding. The colour of the wings is also of a much richer yellow, and the markings are fine brown, instead of obscure black.

Sectio 2^{da}.

Alæ anticæ angustiores hyalinæ; serie unica cellularum oblongarum in area anali.

Subsectio 1.

Alæ posticæ pone medium subitò bis aut semel dilatatæ.

Sp. 4. Nematoptera extensa. *Nem. alis anticis hyalinis; costa paullò obscuriori punctoque minuto fusco supra conjunctionem venæ mediastinæ cum postcostali; alis posticis ante apicem apiceque rotundato, valdè extensis et infuscatis.*

Expans. Alar. antic. $1\frac{2}{3}$ unc. Long. alar. postic. $1\frac{2}{5}$ unc.

Syn. N. extensa, *Olivier*, Enc. Méth. viii. p. 178. *Guerin*, Icon. d. Règne An. Ins. pl. 61. f. 1. *Klug*, Monogr. Panorp. p. 13. *Burmeister*, Handb. d. Ent. ii. p. 987.

The short description given above is taken from a specimen in my collection, which was captured by Olivier himself near Bagdad, and for which I am indebted to my friend Audouin.

Sp. 5. Nematoptera dilatata. *Nem. fusco-brunnea; alis anticis hyalinis; posticis ante apicem biextensis fuscis; apice angusto lacteo.*

Expans. alar. antic. 2 unc. Long. alar. postic. $1\frac{7}{10}$ unc.

Syn. N. dilatata, *Klug*, Monogr. Panorp. p. 14. tab. annex. fig. 1. *Burmeister*, Handb. ii. p. 987.

This very distinct species has the hind wings comparatively short, with the expansions considerably larger than in *N. extensa*. It is from South Africa.

Sp. 6. Nematoptera Forskallii. *Nem. alis anticis hyalinis, vena postcostali flava; alis posticis "triclavatis"; stylo flavo; clava* 1^{ma} *fusco-flavescenti;* 2^{da} *dimidio minori cærulea;* 3^{tia} *terminali oblonga cærulea; apice extimo obtuso.*

"Corp. long. poll." Alæ posticæ, "3 poll. vel corpore triplò longiores."

Syn. Panorpa halterata, *Forskall*, Descr. Anim. p. 97. tab. 25. fig. E. (copied in Encycl. Méth. pl. 98. fig. 1., under the name of *Panorpe d'orient*).

Nec N. halterata, *Fabr.*, *Olivier*, *Dumeril*, *Klug*.

Sp. 7. Nematoptera barbara. *Nem. alis erectis pallidis; costa late fusca; posticis linearibus longissimis subbiclavatis nigris apice dilatatis in medio coarctatis; fasciis tribus albis, intermedia minori.*

Syn. Panorpa Coa, *Fabricius*, Mantiss. Ins. i. p. 251.
Panorpa halterata, *Fabricius*, Ent. Syst. Suppl. p. 208.
Nemoptera barbara, *Klug*, Monogr. Panorp. p. 14.

Sp. 8. Nematoptera pallida. *Nem. alis anticis hyalinis immaculatis venis fulvescentibus punctoque minuto stigmaticali albo; posticis longissimis linearibus albis apice vix latioribus, fascia tamen fusca dilatata pone medium alæ.*

Expans. Alar. antic. $1\frac{9}{10}$ unc. Long. alar. postic. $\frac{9}{12}$ unc.

Syn. N. pallida, *Olivier*, Enc. Méth. viii. p. 179.
N. halterata, *Klug*, Monogr. Panorp. p. 14 ?.

Subsectio 2.

Alæ posticæ absque dilatatione.

(*a*.) Fasciatæ.

Sp. 9. Nematoptera africana. *Nem. corpore luteo, brunneo vario; alis anticis apice rotundatis hyalinis; spatio inter venam mediastinam et postcostalem luteo; his venis fulvo-testaceis, umbra fuscescenti apicali post stigma albidum; alis posticis basi pallidioribus; fascia fusca ante apicem album.*

Expans. alar. antic. 2 unc. Long. alar. postic. $2\frac{1}{8}$ unc.

Syn. Nemopteryx africana, *Leach,* Zool. Misc. vol. ii. p. 74. tab. 85. fig. inf.; *Griffith,* Animal Kingd. vol. xv. p. 324. pl. 105. fig. 4.

Sp. 10. Nematoptera bacillaris. *Nem. pallida, dorso brunneo vario; alis hyalinis, anticis (apice angustioribus subacutis) costa pallida, ad apicem infuscata; stigmate albo; posticis linearibus longissimis, basi pallidis, ante apicem latè fuscis; antennis longitudine alarum anticarum.*

Expans. alar. antic. $2\frac{1}{8}$ unc. Long. alar. postic. $2\frac{1}{2}$ unc.

Syn. N. bacillaris, *Klug,* Monogr. Panorp. p. 15. tab. annex. fig. 2. *Burmeister,* Handb. d. Ent. ii. p. 986.

Sp. 11. Nematoptera latipennis. *Nem. rufo-testacea; linea dorsali media fusca; alis anticis dilatatis rotundatis; umbra cinerea post stigma album; posticis in basi rufescentibus; fascia fusca ante apicem album.*

Long. corp. $6'''$; alar. antic. $10'''$.

Syn. N. latipennis, *Burmeister,* Handb. d. Ent. ii. p. 986.

This species inhabits South Africa, and is described by Burmeister from the Museum of Halle.

Sp. 12. Nematoptera angulata. *Nem. pallida, brunneo varia; antennis fuscis longitudine alarum anticarum; alis anticis apice angulatis, hyalinis; vena mediastina et postcostali fulvis (spatio intermedio luteo), punctoque parvo in cellula singula areæ costalis fulvo; stigmate fusco; alis posticis longissimis ferè linearibus, dimidio basali brunneo; fascia lata ante apicem album fusca.*

Expans. alar. antic. $2\frac{1}{4}$ unc. Long. alar. postic. $2\frac{1}{2}$ unc.

Syn. Nemoptera angulata, *Westw.* in Trans. Ent. Soc. vol. i. Journal of Proceedings, p. 75.

Inhabits South Africa.

Sp. 13. Nematoptera costalis. *Nem. lutea, brunneo varia; antennis luteo-fulvis, alis anticis multò brevioribus; alis anticis apice rotundatis hyalinis; vena mediastina et postcostali fulvis (spatio intermedio luteo), punctoque parvo in cellula singula areæ costalis fulvo; stigmate fusco; nubila apicali alba, internè umbra tenui lutea marginata; alis posticis albidis ad basin fuscescentibus; fascia fusca ante apicem album.*

Expans. alar. antic. 2 unc. Long. alar. postic. 2⅛ unc.
Syn. N. costalis, *Westw.* in Trans. Ent. Soc. i. ELXXV.
Inhabits South Africa.

Sp. 14. NEMATOPTERA OLIVIERII. *Nem. corpore testaceo brunneoque variegato; alis hyalinis; anticis valdè angustis; costa pallidè fusca, lineaque (areæ costali posticè conjuncta) tenui stigmateque albidis; posticis linearibus basi fasciaque testaceis.*

Expans. alar. antic. 1¼ unc.
Syn. N. halterata, *Olivier*, Enc. Méth. viii. p. 178. (nec Forskallii).
N. costata, *Klug*, Monogr. Panorp. p. 14.

(*b*.) Alæ posticæ setaceæ haud fasciatæ.

Sp. 15. NEMATOPTERA SETACEA. *Nem. pallida; dorso pedibusque fuscesentibus; alis anticis hyalinis, ad apicem subinfuscatis macula alba; posticis setaceis apice albis.*

Long. corp. lin. 6. Expans. alar. antic. 12—13 lin.; alar. postic. 14—15 lin.

Syn. Nemoptera setacea, *Klug*, Monogr. Panorp. p. 15. tab. annex. f. 3. *Burmeister*, Handb. d. Ent. ii. p. 986.

Inhabits South Africa.

Sp. 16. NEMATOPTERA CAPILLARIS. *Nem. pallida; dorso luteo vario; alis anticis hyalinis, nervis fusco alboque variegatis, reticulatis; macula ad marginem anticum ante-apicali alba; posticis longissimis setaceis albis; basi hyalinis reticulatis.*

Long. corp. lin. 4. Expans. alar. antic. 10½ lin. Long. alar. postic. 13½.

Syn. N. capillaris, *Klug*, Monogr. Panorp. p. 16. tab. annex. fig. 4. *Burmeister*, Handb. d. Entomol. ii. p. 985.

Inhabits Arabia.

Sp. 17. NEMATOPTERA ARISTATA. *Nem. albida; alis albo-hyalinis; anticis macula ante-apicali fusca; posticis setaceis.*

Long. corp. lin. 2½.
Expans. alar. antic. 9. Long. alar. postic. 7¼.

Syn. Nem. aristata, *Klug*, Monogr. Panorp. p. 16. tab. annex. fig. 5. *Burmeister*, Handb. d. Ent. ii. p. 985.

Inhabits Ambukohl.

Sp. 18. NEMATOPTERA ALBA. *Nem. alba immaculata; oculis solùm nigris; alis anticis hyalinis, venis albidis; posticis longis setaceis et coloris albi paullò obscuri.*

"7 ou 8 lignes de largueur les ailes étendues," *Oliv.*

Syn. Nem. alba, *Olivier*, Enc. Méth. viii. p. 179. *Klug*, Monogr. Panorp. p. 16.

Inhabits Bagdad. Found in the houses in the evenings of May.

Sp. 19. NEMATOPTERA FILIPENNIS. *Nem. luteo-fusca; alis anticis albo-hyalinis; stigmate fusco; posticis longissimis, basi nigricantibus latioribus; apice albo filiformi.*

Long. corp. lin. 3½. Expans. alar. antic. lin. 11½. Long. alar. postic. 1 unc. 3 lin.

Habitat in India orientali. In Mus. D. W. W. Saunders, F.L.S., &c.

Mr. Gould exhibited to the Meeting fine specimens, male and female, of the *Macropus laniger* of Quoy and Gaimard, and a species of *Hypsiprymnus* nearly allied to the *H. minor*, but which differs considerably in the form of the skull, and especially in having the muzzle broader, the sides being swollen; it also differs from *H. minor* in having the tail and tarsi proportionally shorter. This species being new, Mr. Gould characterized it as follows, under the name

Hypsiprymnus Gilbertii. *Hyps. colore corporis supernè e cinereo, fusco, nigroque commixtis, lineâ nigrescente a naso ductâ cum colore frontis se intermiscente; corpore subtùs e cinereo albo.*

	unc.	lin.
Longitudo ab apice rostri ad caudæ basin....	16	0
——— *caudæ*........................	6	3
——— *tarsi*	3	0

This species was procured by Mr. Gould's assistant, Mr. Gilbert, at King George's Sound.

The following two papers, being a continuation of the descriptions of Mr. Cuming's shells, were next read.

The first of these papers is by W. J. Broderip, Esq.

Bulinus maculiferus. *Bul. testâ plerumque sinistrorsâ, elongato-pyramidali, anfractibus sex subventricosis, ultimo longè maximo, lineis incrementi obliquè longitudinaliter striatâ; aperturâ ovatâ; labro sub-patulo reflexo albo.*

Var. A. *Griseo-brunnea strigis griseo-subpurpureis et maculis albis griseo-subpurpureisque irregulariter notata; anfractu basali supernè suturam juxta albo vittata.*

Bulinus maculiferus is figured in Sowerby's Conchological Illustrations, but has not hitherto been described.

Var. B. *Griseo-albens vel subflavescens strigis frequentibus, irregularibus, subangulatis, sordidè subpurpureis ornata.*

This seems to be the shell figured by Petiver, Tab. lxxvi. fig. 5. Described by him as " a rare *Luzone-shell*, with its mouth to the right. Cat. 224. Its waves brown, the rest yellow and white."

Var. C. *Flavescens, ochraceo-brunneo strigata.*

Var. D. *Albido-brunnescens; anfractibus prioribus strigis obscuris undulatis, ultimo strigis distantibus obliquè longitudinalibus roseis albo limbatis, ornatis.*

Var. E. *Tota alba.*

Var. F. *Dextrorsa alba vel subflavescens strigis purpureo-brunneis præsertim in anfractum ultimum creberrimis et subirregularibus ornata.*

Length about $2\frac{1}{2}$ inches. Breadth about $1\frac{1}{8}$ inch.

Legit H. Cuming in sylvis.

Locality. All the varieties, except Var. C., were found in the province of Misamis, in the island of Mindanao. Var. C. was found at Gindulman, in the isle of Bohol. All were taken on the trunks of trees.

This is a handsome species; the ivory-like appearance of the apex, with its dark border, in most of the varieties, except the white one, is remarkable. In fine specimens, the inside of the mouth has a satin-like nacreous lustre, bordering on iridescence, something like that often seen upon the tendon of a muscle.—W.J.B.

BULINUS EVANESCENS. *Bul. testâ obtusè conico-pyramidali, subpupiformi, anfractibus* 5, *lineis incrementi creberrimè striatâ; labro subreflexo.*

Var. A. *Albido-flavescens; anfractu penultimo et ultimo purpureo-brunneo suturam juxta supernè vittata; strigâ basali ad columellam approximante purpureo-nigrâ.*

Long. $1\frac{1}{8}$. Lat. $\frac{6}{8}$ poll. circ.

Var. B. *Gracilior, alba, strigâ basali subpurpureâ.*

Var. C. *Tota alba.*

Legit H. Cuming in insula Luçon.

Var. A. was taken at Lual, in the province of Pangusinan, on leaves of bushes; the other two varieties at Catananan, in the province of Tayabas, on leaves of trees.—W.J.B.

BULINUS VELATUS. *Bul. testâ subpupiformi, anfractibus* 5, *ultimo cæteros æquante flavescente ad suturas rubro-brunneo vittatâ, anfractu basali fasciâ obscurâ subcentrali cincto, epidermide albente meatibus plenâ, velatâ; strigâ basali et labii vix reflexi limbo rubro-brunneis; aperturâ albâ.*

Long. $1\frac{7}{10}$. Lat. $\frac{9}{10}$ poll. circ.

Hab. in insula Camote.

Legit H. Cuming in sylvis, foliis arborum adhærentem.

In a great number of the beautiful land-shells collected by Mr. Cuming, and herein-before described, the pattern, upon immersion in water or other fluid, becomes entirely obliterated till evaporation restores the colours to all their pristine brilliancy. In the species now before us, the very reverse is the result of immersion. The external whitish porous epidermis which veils the shell when dry, suffers the bright colours to shine out when immersed in water. *Bul. velatus* is described above, as it appears on immersion, and before it becomes dry: but in the latter state the beauties of the shell are shrouded, and the colour of the sutural bands, peeping out between interstices in the epidermis, gives to these bands a moniliform appearance.

I sent to Sir David Brewster, as the highest authority on such subjects, four or five species of those land shells from which the pattern disappears upon immersion; but I have not as yet forwarded to him any upon which the colours come out when so treated. Sir David has been so obliging as to send me the following letter, which I now lay before the Society:—

"Dear Sir,—I beg to return you my best thanks for the very interesting specimens of land-shells from the Philippine Islands, which you have been so kind as to send me. The disappearance of the white pattern by immersion in water or any other evaporable fluid, and its subsequent reappearance when the shell is dry, are phenomena perfectly analogous to those of *hydrophanous opal, tabasheer*, and other porous substances.

"The phenomenon in the land-shells is still more beautiful when we examine them by *transmitted* light. The pattern which is *white* by *reflected* light, is *dark* by *transmitted* light, and *vice versâ*. This is particularly beautiful in the *Helix pulcherrima*, where the ground of the *white* pattern is almost *black* by reflected light, and of a light *reddish* colour by transmitted light, the pattern which is *white* by reflection, having a *dark red* colour by transmitted light.

"In all these shells, the difference of structure by which the pattern is produced, does not exist in the shell, but in the *epidermis*, and hence the pattern may be wholly obliterated by removing the epidermis. It appears to me, from very careful observations, that the epidermis consists of two layers, and that it is only the upper layer which is porous wherever the pattern is white. These *white* or porous portions of the epidermis differ from the other parts of the upper layer only in having been deprived of, or in never having possessed, the element which gives transparency to the membrane, in the same manner as hydrophanous opal has become *white*, from the expulsion of its water of crystallization.

"When the shell is immersed in water or any other fluid, the fluid enters the pores of the white epidermis, and having nearly the same refractive power as the epidermis, no light is reflected at the separating surface of the water and the pores which contain it, so that the light passes through the membrane, which thus loses its white appearance. When the water escapes from the pores by evaporation, or is driven from them by heat, the membrane again reflects white light from the numerous surfaces of its pores.

"As the colouring matter resides in the shell itself, its peculiar colour is seen through the epidermis as distinctly where it is porous, as where it is not porous, when the porous portion has been rendered transparent by the absorption of a fluid.

"If we apply oil or varnish to the white pattern, we may obliterate it permanently, or we may change it into a pattern entirely different from the original one.

"If these observations appear to you to have any interest, you are welcome to make any use of them you please.

"I am, dear Sir, ever most faithfully yours,

"D. Brewster."

It will be observed, that Sir David Brewster points out how the application of oil or varnish to the white pattern may obliterate it permanently; such a case has already happened more than once: persons who have become possessed of some of the species whose patterns are lost on immersion, not content with their natural beauties, and unaware of their peculiarity, have had recourse to art, and by applying oil or varnish, have spoiled their specimens,—a proper punishment for trying to mend nature.

The second paper is by G. B. Sowerby, Esq.

Helix metaformis. De F. var.

It seems proper to notice the following additional varieties of this species, varieties which have been found by Mr. Cuming in the Philippine Islands, viz.—

a. Shell pale yellow brown, irregularly covered with a very pale hydrophanous epidermis; circumference of the columella nearly black; one pale brown band anterior to the circumference of the shell; apex white. Found on leaves of trees near Manilla.

b. Shell pale yellow brown; apex white; circumference of the columella nearly black; a pale brown band close behind the suture of the first volutions. Found on leaves of trees near Manilla.

c. Shell light brown, paler near the apex, which is reddish brown; circumference of the columella nearly black; two narrow brown bands, one of which is placed at the circumference of the shell, and the other close to the suture in front. Found on leaves of trees near Manilla.

d. Shell light brown, with a dull hydrophanous epidermis, paler toward the apex, which is dark mahogany brown; circumference of the columella nearly black; two broad, very dark brown bands, one of which is placed at the circumference of the shell, the other close to the suture in front. Found on leaves of trees at San Mateo, in the province of Tondo, isle of Luçon.

e. Shell brown, with a lighter coloured irregular hydrophanous epidermis; paler near the apex, which is dark brown; circumference of the columella very dark brown; two brown bands nearly similar to those in var. *c.* This is rather a coarse variety, and appears to be a slight example of monstrous growth, its spire being rather unusually elevated, and the volutions consequently more prominent. Found on leaves of trees near Dolores, province of Pampamga, isle of Luçon.

HELIX CINCINNIFORMIS. *Hel. testâ ovato-oblongâ, pyramidali, tenui, lævigatâ, striis incrementi tenuissimis solùm insculptâ, apice spiræ obtuso; anfractibus quinque tenuitèr rotundatis; suturâ distinctâ; aperturâ obtusè subtrapezoidali, posticè acuminatâ; peritremate tenuitèr reflexo, albo; columellâ rectiusculâ, subincrassatâ, albâ.*

Long. 1·8; lat. 1·2 poll.

Hab. Supra folia arborum ad insulam Luban, Philippinarum.

Mr. Cuming has obtained three varieties of this species, viz.:—

a. Colourless.

b. White, a broad nearly black belt surrounding the columella, a pale reddish brown band at the circumference of the shell, and a darker brown antesutural band articulated with white hydrophanous specks of epidermis; apex dark brown.

c. Shell white, with a broad nearly black belt surrounding the columella, a spiral dark brown band in the centre of the last volution and continuing to the apex, and an antesutural dark brown band, articulated with whitish specks of hydrophanous epidermis.

HELIX LEUCOPHÆA. *Hel. testâ ovato-oblongâ, subpyramidali, crassiusculâ, lævi, obscurâ, brunneâ; epidermide hydrophanâ pallescente indutâ; apice obtuso; anfractibus senis, subrotundatis; aperturâ rotundato-subtrapeziformi, posticè acuminatâ, labio externo crasso, reflexo, albo, margine fusco; columellâ subincrassatâ, rectiusculâ albâ, anticè subsinuatâ.*

Long. 2; lat. 1·2 poll.

Hab. Supra folia arborum ad montes Igorrotes insulæ Luçon, Philippinarum.

This species has occurred in several localities, and there are several varieties, all remarkable for a more or less russet brown hydrophanous epidermis. They are

a. Shell of a nearly uniform colour, rather lighter near the suture, and very irregularly speckled with dark brown shining spots, caused by the partial abrasion of the epidermis. From the mountains of the Igorrotes, in the northern part of the island of Luçon.

b. Shell of an uniform brown, with a nearly white sutural band interrupted with brown shining spots. From the same locality.

c. Shell of a light brown colour, with a dark band surrounding the last volution. Found on leaves of trees at Sual, in the province of Pangusinan, island of Luçon.

d. Shell of an uniform light brown, speckled with dark brown, and with a dark brown antecircumferential band. Found on leaves of trees at Dolores, in the province of Pampamga, isle of Luçon.

e. Shell small, of an uniform brown, with a nearly white antesutural band, and a pale band near the circumference of the last volution. From the mountains of the Igorrotes.

f. Shell brown, longitudinally streaked with nearly white, and having a nearly white antecircumferential band. Found on leaves of trees at Gattananga, in the province of Cagayan, island of Luçon.

g. Shell of an uniform dark brown. This appears to be a dwarf variety, being much shorter in its proportions than the others. Length 1·5; breadth 1·05 of an inch. Found on leaves of trees at Sinait, in the province of South Ilocos, in the island of Luçon.

February 23, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from Capt. Belcher, R.N., dated Sincapore, October 22, 1840, was read. It announces that Capt. Belcher had forwarded for the Society's Menagerie a specimen of the Babyroussa Hog, from the Moluccas.

Mr. G. B. Sowerby's descriptions of the shells collected by H. Cuming, Esq. were continued.

HELIX COLUMBARIA. *Hel. testâ suborbiculari, rotundato depressâ, læviusculâ, fulvescente, brunneo-variè-zonatâ, sæpius propè suturam albido tessellatâ; spirâ brevi, obtusâ; anfractibus quinis plùs minùsve rotundatis; peripheriâ rotundatâ; aperturâ transversâ subauriformi; peritremate incrassato, continuo, reflexo, subsinuoso, intùs anticè nonnunquam unidentato; dente obtuso; umbilico parvo, partim obtecto.*

Long. 0·73; lat. 1·4 poll.

Obs. *Testâ pone aperturam sæpius coarctatâ.*

Hab. Sub lapidibus et ligno putrescente apud Calauan, provinciæ Laguna, insulæ Luçon, Philippinarum.

The following varieties of this interesting and elegant species have occurred to Mr. Cuming:—

a. Shell somewhat striated, striæ forming the lines of growth, many of those on the under side white, pale brown with brown bands (one at the periphery, one close to the suture, and one beneath). Distant, squarish, striated patches of white epidermis ornament the broad band in front of the suture: aperture white: found at Calauan.

b. Shell slightly striated, striæ as in the last, forming the lines of growth; ground colour pale yellowish brown, with a rather darker brown band close in front of the suture, a narrow brown band at the periphery, and a broad one beneath, where this variety is also ornamented with brownish white mottlings: peritreme white, with a single white tooth within at the lower part. From Calauan.

c. Pale brown, darker, and articulated with brownish white patches in front of the suture; a narrow brown band at the periphery, where it is mottled with brownish white; peritreme flesh-colour, with a single white tooth within at the lower part. From Albay.

d. Light brown, having a brown antesutural band, articulated with brownish white, a brown band at the circumference and a broad brown band beneath; and brownish white mottlings spread over both these last-mentioned bands; peritreme as in the last. Found at Albay.

Helix concinna. *Hel. testâ oblongo-pyramidali, tenui, lævigatâ, epidermide fuscâ albido-marmoratâ indutâ ; spiræ apice obtuso ; anfractibus senis, planulatis ; suturâ distinctâ ; aperturâ rotundato-subtrapeziformi ; labio externo incrassato, tenuiter reflexo, fusco ; columellâ albâ, subincrassatâ, anticè subsinuatâ.*

Long. 1·3 ; lat. 0·75.

Hab. Supra folia arborum ad Sanctam Jaun, provinciæ Cagayan Insulæ Luçon, Philippinarum.

The ground colour of this very elegant little shell is of a dark chestnut-brown, and this is covered all over, except a small portion about the aperture, with an hydrophanous epidermis of various shades of brown, beautifully marbled with white and brownish white. Near the apex the shell is lighter coloured, but the apex itself is darkish brown.

Helix curta. *Hel. testâ subovatâ, pyramidali, tenuiusculâ, lævigatâ, epidermide supernè pallescente, subtùs fuscâ indutâ ; spiræ apice obtuso ; anfractibus subsenis, rotundatiusculis ; suturâ distinctâ ; aperturâ sublunari, ad latus columellæ sinuatâ ; labio externo reflexo, latiusculo, albo ; columellâ obliquâ, latâ, anticè obliquè truncatâ, albâ.*

Long. 1·2 ; lat. 0·9 poll.

Hab. Supra folia arborum apud Bauang, provinciæ Pangusinan insulæ Luçon, Philippinarum.

The shell itself is of a pale yellow-brown colour, lighter at the third volution, where it begins to put on a pale tint of chestnut-brown, which becomes darker as it approaches the apex, which is brown.

Helix Meretrix. *Hel. testâ suborbiculari, rotundato-depressâ, crassiusculâ, lævi, fulvescente, brunneo-variè-zonatâ, albidoque marmoratâ ; spirâ brevi, obtusâ ; anfractibus quinis, subrotundatis ; peripheriâ rotundatâ ; aperturâ transversâ, subauriformi ; peritremate incrassato, continuo, reflexo, subsinuoso ; umbilico mediocri, partim obtecto.*

Long. 0·65 ; lat. 1·4 poll.

Hab. Supra truncos arborum apud Sual, provinciæ Pangusinan, insulæ Luçon, Philippinarum.

Shell with a low, depressed spire, of a yellow-brown colour, with three very dark brown, nearly black bands (one at the periphery, one before, and one behind it) ; aperture posteriorly subsinuated, white ; upper part of the shell with irregular radiating, broadish white streaks.

March 9, 1841.

James Whishaw, Esq., in the Chair.

A paper by Dr. Richardson, on some new or little known fishes from the Australian seas, was read. The following is an abstract of this paper.

1. **Cheilodactylus gibbosus**, *formâ Cheilodactyli zonati, (h. e. capite brevi, ore parvulo, dentibus brevibus setaceis; dorso gibbo, spinâ quartâ longissimâ;) radiis pinnæ dorsalis articulatis radios spinosos numero plus duplo excedentibus.*

Radii. P. 8·VI; D. 17·36; V. 1·5; A. 3·8; C.

This species differs from the ordinary *Cheilodactyli*, and agrees with the Japanese species discovered by the naturalists who accompanied Admiral Krusenstern, in the body being very high in the pectoral region, and tapering away in a lengthened manner posteriorly; in the abruptly and steeply arched form of the spinous dorsal anteriorly, the smallness of the mouth, the slender teeth, and in horn-like protuberances on the fore-part of the orbit, and also on the tip of the snout, the latter formed by the projecting shoulders of the maxillary bones. The Japanese species named *zonatus* in the 'Hist. des Poissons,' has only twenty-nine articulated rays in the dorsal, and differs in the distribution of its dark bands of colour, which in *gibbosus* run as follows:—one obliquely backwards over the eye and operculum, another over the nape and tip of the gill-flap, meeting the former at the base of the pectoral; a third takes in the first three short dorsal spines, and tapers away on the side under the middle of the pectoral; while a fourth proceeding from a black patch which occupies the fifth and seven following spines, and keeping parallel to the base of the dorsal, runs along the summit of the back to the tail. In *zonatus* there are seven or eight dark stripes running obliquely backwards. Both species appear to have spots on the tail. The description of *Cheilodactylus gibbosus* is drawn up from two Western Australian specimens brought home by Mr. Gould; and the fish also inhabits the seas of New Zealand, Mr. Gray having recognised a drawing by Parkinson of a specimen which was caught in Endeavour River, on Cook's second voyage, as being a correct representation of this fish. (Vide Banks, Icon. ined. t. 23.) One of Mr. Gould's specimens is deposited in the British Museum, and the other at Haslar Hospital.

2. **Ostracion lenticularis**, *inermis, ovali-compressus, dorso ventreque carinatis.*

Radii. P. 12; D. 10; A. 10; C. 11.

The discovery of this species adds another form to the genus *Ostracion*, the shapes enumerated in the 'Règne Animal' being triangular with or without spines, quadrangular with or without spines,—

and compressed with a keeled belly and scattered spines. In *lenticularis* we have a compressed form with a keeled back and belly and no spines. The compressed Ostracions with scattered spines have been characterized by Mr. Gray as a subgeneric group, under the name of *Aracana*, and several Van Diemen's Land species were lately described to the Society by the author of the present paper. The *Aracana Reevesii* (Gray) from China differs from the Van Diemen's Land species in having the back slightly keeled, and thus forms a transition to the form of *lenticularis*, in which the sides are convex, the back and belly acute, and the profile elliptical. *Lenticularis*, though unarmed, exhibits an analogy to the armed *Aracanæ*, in the umbones of the reticulated surface being largest where the spines would be situated, did they exist. The species is Australian, and the author expresses his obligations to Dr. Andrew Smith, of Fort Pitt, for the loan of two specimens of different ages.

3. ANGUILLA AUSTRALIS. Van Diemen's Land Eel.

ANGUILLA AUSTRALIS, *maxillâ inferiore longiore, pinnâ dorsi supra anum incipienti, rictu magno.*

This is a Port Arthur freshwater species, for which the author expresses himself indebted to Mr. Lemprière. It differs from the common freshwater eels of Europe in the more posterior origin of the dorsal, as well as in the more anterior position of the vent. The pectorals are lanceolate, the vertical fins are but moderately high, and the gape extends to the posterior margin of the orbit.

4. NARCINE TASMANIENSIS, *dorso dipterygio, corpore latè obovato; valvulâ nasali obtusè trilobatâ integerrimâ; pinnâ ventrali disco pectorali approximatâ.*

The author having but recently had an opportunity of consulting Henle's Monograph of the genus *Narcine*, takes this opportunity of supplying a specific character of the Van Diemen's Land species, which was formerly described to the Society (Zool. Proceed. for March 1840, p. 29), but which could not be distinctively characterized from his want of knowledge of the other species.

A paper by W. J. Broderip, Esq., in which the author proceeds with his descriptions of Mr. Cuming's shells, was next read.

HELIX CRYPTICA. *Hel. testâ tumidâ, subumbilicatâ, subglobosâ, anfractibus* 3 *subcorrugatis* (*ultimo longè maximo, obscurè fasciato*), *lineis incrementi creberrimè obliquè substriatis, purpureo-brunneâ, epidermide sordidè brunneâ; aperturâ subelongato-auriculiformi, intus subargenteo-cærulescente, subiridescente; labii limbo rubro-brunneo, haud patulo, reflexo.*

Long. $1\frac{6}{8}$; lat. $2\frac{1}{2}$ poll.

Hab. ad Catbalonga Insulæ Samar sub foliis desiccatis.

Mr. Cuming found this *Helix* hidden under the decayed leaves of trees. The inside of the mouth has that silvery iridescence which may be observed in the tendon of a muscle in some of the mammiferous animals, and through it may be seen the purple-brown colour of the shell, which thus puts on a subcærulescent appearance.

HELIX LATITANS? *Hel. testâ subtumidâ, subcomplanatâ, purpureo-rubrâ, anfractibus* 3 *lineis incrementi creberrimè striatis* (*ultimo longissimè maximo*), *epidermide sordidè albente ; aperturâ maximâ e brunneo subalbido-iridescente, labio patulo, reflexo, rubente, albido internè limbato.*

Long. 1$\frac{5}{8}$; lat. 2$\frac{5}{8}$ poll.

Hab. ad Gindulman Insulæ Bohol sub foliis desiccatis.

At first sight, this *Helix*, which was also found by Mr. Cuming under decayed leaves, looks a good deal like *H. cryptica*; but on a nearer inspection not only will a difference in form almost indescribable be observed, but also in the texture of the shell, which is without corrugations. The mouth too is much wider and broader, and the reflected lip much more patulous. The silvery iridescence of the mouth extends but a short distance within the aperture, but the polish is continued far in. Still it may only be a variety of *H. cryptica.*

HELIX CRETATA. *Hel. testâ subglobosâ, tumidâ, anfractibus* 3 (*ultimo longè maximo, fasciis et lineis nigricantibus cincto*), *lineis incrementi creberrimè obliquè striatis et lineis elevatis cinctis, brunneo-nigricante, epidermide cretaceâ ; aperturâ argenteo-subcæruleâ, labii limbo obscurè rubente.*

Hab. ad Tannauan Insulæ Leyte foliis arborum hærens.

Mr. Cuming has shown me a young shell which he brought from the mountains of Tanhay in the Isle of Negros, where it was taken on the leaves of trees. I thought at first that it might be the young of *Helix Harfordii*, but the sculpture of the shell and the quality of the epidermis correspond so closely with those of the adult shell just described, that though there is some difficulty arising from the capture of the two shells in different islands, I am inclined to be of opinion that it is probably the young of *Helix cretata.*

HELIX PAN. *Hel. testâ globosâ, subelevatâ, umbilicatâ, zonatâ, anfractibus* 4 (*ultimo maximo*) *lineis incrementi minutissimè obliquè striatis ; columellâ albidâ, aperturâ subrotundâ, cæruleo-albente, labii limbo angusto, subreflexo.*

Long. 1$\frac{5}{8}$; lat. 1$\frac{7}{8}$, variat ad infinitum.

Var. *a.* Albens brunneo et nigro pulcherrimè fasciata.

Of the whitish class of variety (*a*) there are variations without end, according as the bands are more or less present or absent. In some the whitish epidermis is only relieved by a brown sutural line and a deep submedial band on the body-whorl, which is more or less interrupted and ribanded with white and light brown towards the base.

Var. *b.* Brunnea albido et nigricante concinnè fasciata.

The same may be said of this section, which varies as much as var. *a.* This imperfect description was drawn from six of each class; but at least treble the number of each would be requisite to give a correct idea of the infinite variations of this beautiful species.

March 23, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A collection of birds from Newfoundland, presented by E. Moore, Esq., was exhibited: it consists of specimens, in different states of plumage, of the Willow Ptarmigan (*Tetrao Saliceti*), a specimen of the Pin-tailed Duck (*Dafila caudacuta*), the American Teal (*Querquedula Americana*), and the Black-backed Gull (*Larus marinus*). The collection also contains a fœtal Esquimaux preserved in spirit.

A paper by G. B. Sowerby, Esq., was read, in which the author proceeds with his descriptions of the new species of shells collected by H. Cuming, Esq., in the Philippine Islands. The following species were described and exhibited:—

Helix matruelis. *Hel. testâ depressiusculo-subglobosâ, tenuiusculâ, lævi, castaneâ, epidermide opacâ, pallescente, hydrophanâ indutâ; spirâ subdepressâ, anfractibus quatuor subrotundatis, ultimo maximo, ventricoso; suturâ distinctâ; aperturâ subtrapezoidali, extùs rotundatâ, intùs sinum propè columellam efformante, labio externo reflexo rotundato, fusco; columellâ latiusculâ, declivi, anticè obliquè subtruncatâ.*

Long. 1·1; lat. 1·6 poll.

Hab. supra folia arborum propè Cagayan, Provinciæ Misamis, Insulæ Mindanao, Philippinarum.

Obs. *Variat interdùm spirâ minus depressâ.*

Of this species there are two varieties in form and several in colouring. The variety with a rather more than usually elevated spire very closely resembles some of the varieties of *Helix Roissyana*; still it may be distinguished from that species by the much greater declivity of the columella, and its broader and less rounded outer lip. In the general arrangement of the colouring all the varieties are somewhat similar, particularly in the dark chestnut colour of the apex, which is continuous down the anterior part of the following volutions; the upper part of the second and third volutions are lighter; the columella is dark brown, and there is always a very light band surrounding it, which when covered with its epidermis is light yellow-brown, but when deprived of it is white; this is surrounded by a very dark brown band. The following are the varieties in colour, viz.

a. Shell with a dark brown band at the periphery and another antesutural dark brown band; epidermis with a very pale band at the circumference.

b. Shell coloured precisely like *a.*: epidermis with a very dark band at the circumference.

c. Shell with the spire more elevated; last volutions very dark brown, with a white antesutural and another white band at the circumference.

HELIX SETIGER. *Hel. testâ suborbiculari, tenui, brunneâ, spirâ levatiusculâ, anfractibus senis, rotundatis, angustioribus; aperturâ semilunari, labio externo, tenuissimo; epidermide setigerâ, setis regulariter coordinatis.*

Long. 1· ; lat. 1·2 poll.

Hab. in ligno putrido propè St. Jaun, Provinciæ Cagayan, Insulæ Luçon.

Shell dark brown, with a yellowish band in front of the periphery, and a broad band of the same surrounding the columella, which is small and white and deeply placed.

HELIX VELUTINA. *Hel. testâ suborbiculari, subdepressâ, tenui, pallidè brunneâ, epidermide velutino indutâ, anticè lævi, nitidâ; spirâ depressâ, anfractibus quinque, rotundatis; aperturâ semilunari, posticè rotundato-subtruncatâ; labio externo tenui; columellâ parvâ, profundâ.*

Long. 0·7 ; lat. 1·2 poll.

Hab. in arboribus putridis ad Insulam Guimaras, Philippinarum.

Close-set short hairs, covering the whole of the upper part of the shell and part of the lower, give it a velvety appearance and softness. Two varieties of this species have occurred, one of smaller size and paler colour at the Isle of Negros, and the other like the last with two brown bands at Mount Isarog.

HELIX BREVIDENS. *Hel. testâ suborbiculari, subdepressâ, tenuiusculâ, pallidè brunneâ, lineâ brunneâ supernè circumdatâ; spirâ subplanulatâ, anfractibus quatuor, supernè subplanulatis, ad pepheriam rotundato-subangulatis, infrà rotundatis; aperturâ semilunari, posticè depressâ, labio externo albo, rotundato-reflexo, anticè, propè columellam unidentato, dente brevi, obtuso, albo; umbilico parvo, labio columellari partim obtecto.*

Long. 0·5 ; lat. 0·8 poll.

Hab. at Puerto-Galero.

The epidermis of this species has numerous close-set, very short hairs, which renders it rather rough to the touch.

HELIX GUMMATA. *Hel. testâ suborbiculari, conico-subdepressâ, crassiusculâ, supernè decussatim striatâ, infrà lævi, nitidâ, striis incrementi solùm insculptâ; spirâ conico-subdepressâ, anfractibus senis, rotundatis, angustioribus, epidermide corneo, nitido, supernè indutis; aperturâ semilunari, labio externo tenui, propè columellam subincrassato; columellâ profundâ.*

Long. 0·8 ; lat. 1·3 poll.

Hab. in ligno putrido propè Nuevam Insulæ Luçon, Philippinarum.

The upper or posterior part of this shell is covered with a thin horny epidermis, which gives it the appearance of having had a coat of varnish or gum spread over it, whence the name. In colour its upper surface is dark brown, the circumference light yellowish brown, then a band of the same colour as the upper surface, and then the lower or anterior part is of the same colour as the circumference. A variety occurs which is smaller and darker coloured, at the same time its brown band in front of the circumference is much broader.

Helix sphærica. *Hel. testâ sphæroidali, crassiusculâ, flavâ, lineâ spirali nigro-fuscescente circumdatâ; haud nitente, spirâ obtusâ, anfractibus quatuor ventricosis, ultimo maximo; aperturâ subcirculari, labio externo crasso, reflexo, albo, margine nigro; columellâ latâ, crassâ, albâ margine nigricante.*

Long. 0·9; lat. 1·0 poll.

Hab. supra folia arborum propè St. Esteven Provinciæ Ilocos meridionalis Insulæ Luçon, Philippinarum.

Five varieties of this very brilliant species have occurred to Mr. Cuming; viz.

a. Bright yellow with a narrow white band close to the suture in front.

b. Pale brownish yellow: in other respects the same as *a.*

c. Bright yellow with a narrow white band close to the suture in front and a broad brown band at the circumference.

d. Same as *a*, only having in addition pale brown irregular longitudinal stripes on the last volution.

e. Same as *a*, only having in addition bright brown irregular longitudinal stripes on the last volution; found on the leaves of the Pandanus in the mountains of the Igorro in the north part of Luçon.

Helix (Carocolla) semigranosa. *Hel. testâ suborbiculari conico-subdepressâ, supernè granulosâ, subtùs lævi, nitidâ; spirâ conico-subdepressâ, anfractibus senis, rotundatis, ad marginem carinatis; labio externo tenui, acuto, propè columellam crassiusculo; umbilico minimo.*

Hab. ad Insulam Luban dictam, Philippinarum.

The margin of the last volution immediately in front of the keel is slightly crenulated, and of a dark brown colour: the remainder of the shell is of an uniform yellow-brown colour.

April 13, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

The following paper, on some new genera of Birds, by Hugh E. Strickland, Esq., was read.

"It is not without some unwillingness that I venture to point out some new generic groups of birds, because I am of opinion that the process of naming and defining new genera has been in many cases carried too far already. The class of birds probably does not contain more than 6000 species, and these have already been distributed into upwards of 1000 genera, and I think therefore there can be no doubt that systematic ornithologists are now fast approaching the point beyond which it will not be expedient to carry the subdivision of the older groups into new genera. For we must not lose sight of the fact, that expediency or practical convenience *does* form an element in the construction even of a natural system. In such a system the *materials* which constitute any group must be naturally allied, and they must be placed in such *order* as will best show their natural affinities, and yet the number of nominal genera into which such a group is to be divided may be a question of mere expediency. For the *species*, which are the only *real* ingredients in a family or subfamily, often pass from one form of structure to another without any hiatus, so that it becomes a mere matter of opinion whether the so-called genera into which they are to be classed shall be many or few. Nature draws no line by which the rank or extent of genera can be determined. As a general rule, varieties of *form* are considered to constitute genera, and varieties of colour, species; but this criterion is far from infallible, for we very rarely find two species, however closely allied, possessing precisely the same form and proportions, so that if every difference of structure be held to be generic, we shall end in having as many genera as there are species. Take, for instance, the two very natural groups *Corvus* and *Parus*, as now restricted; it will be found on examination that there are marked differences of both structure and habits which characterize almost every one of the species. It is plain then that we have in general no other guide in the definition of new genera than a mere *opinion* as to the amount of structural variation which is considered to authorize their adoption, and I think there can be no doubt that in many of the genera recently established in ornithology, the standard has been reduced too low; in other words, these genera are based on diversities of structure of so little value as to be practically inconvenient. All genera profess to be of equal rank, and we should therefore aim at making them as nearly so as possible, and at the same time not inconveniently numerous.

"Granting, however, that many of the existing genera of birds are based on insufficient characters, and may require to be reincorporated with the groups from which they have been divided, it is equally certain that other groups exist in our cabinets, whose characters, as yet undefined, are so marked, as to demand in fairness, and with the view of producing equality of rank, to be defined and named as genera. A few of these groups I now bring forward, illustrated by specimens from my own cabinet, and the meeting will be able to judge how far the structures here exhibited appear to authorize generic distinction.

"I also take this opportunity of exhibiting a specimen of that rare bird the *Glyphorhynchus cuneatus* (Licht.), afterwards named *Xenophasia platyrhyncha* by Mr. Swainson. This bird has the tail of *Dendrocolaptes* and the general form of *Xenops*, while the beak is altogether anomalous, being *com*pressed at the sides and *de*pressed at the apex."

Fam. SYLVIADÆ.

Subfam. MALURINÆ.

Genus SPHENŒACUS[*], n. g.

< *Motacilla*, Gm., < *Malurus*, Sw., < *Sphenura*, Licht.

Diff. Char.—*Beak much compressed; tail cuneate.*

Rostrum mediocre, compressum, ad basin elevatum, culmine subrecto, juxta apicem deorsum, gonyde pariter sursum curvato, tomio maxillari emarginato, commissurâ leviter deflexâ. Nares oblongæ, membranâ suprà tectæ. Vibrissæ nullæ.

Alæ breves rotundatæ, remigibus $4^{\hat{a}}$, $5^{\hat{a}}$, $6^{\hat{a}}$, $7^{\hat{a}}$, æqualibus, primam duplo excedentibus.

Cauda longiuscula, maximè cuneata, rectricibus strictis, acutis, subdecompositis, intermediis exteriores triplò superantibus.

Pedes fortes, tarsis longiusculis, acrotarsiis scutellatis, paratarsiis integris, digitis lateralibus æqualibus.

Ungues modicè curvati, acuti.

Ptilosis rigida, pennis subdecompositis.

Habitat in Africâ.

Species unica, *S. Africanus* (Gm.), Levaill. Ois. d'Af., pl. 112. f. 2. (*Sphenura tibicen*, Licht.)

Fam. MUSCICAPIDÆ.

Subfam. FLUVICOLINÆ.

Genus COPURUS[†], n. g.

< *Platyrhynchus*, Spix, < *Muscipeta*, Cuv.

Diff. Char.—*The two medial rectrices greatly prolonged.*

Rostrum triangulare (desuper spectanti) paulo longius quàm latum,

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[*] Σφὴν, a wedge; *οἴαξ*, a helm.

[†] Κώπη, an oar; *οὐρὰ*, the tail.

modicè depressum. Culmen rotundatus, ad basin lentè, versus apicem citiùs decurvans. Nares ovatæ, patulæ. Tomia maxillaria modicè emarginata. Commissura leniter decurvata, gonys leniter ascendens. Vibrissæ rictales mediocres.

Alæ longiusculæ, remige primâ breviore, 2â, 3â, 4â, fere æqualibus.

Cauda mediocris, quadrata, nisi quòd maris rectrices duæ intermediæ graciles spathuliformes reliquas magis duplo excedunt.

Tarsi mediocres, acrotarsiis paratarsiisque scutellatis. Digitus externus interno longior, ad basin paulò cum intermedio coadunatus. Ungues longiusculi, satis curvati, acuti, graciles.

Habitat in Americâ Meridionali.

Species unica, *C. filicaudus* (Spix), Av. Braz. v. 2. pl. 14. (*Muscicapa leucocilla*, Hahn.)

Obs. This bird bears much resemblance to *Pipra* in the colours of its plumage and in the elongate rectrices, as Mr. Swainson has remarked (Classif. Birds, v. ii. p. 90). The depressed beak, however, rounded culmen, shorter tarsus, and slender claws, sufficiently prove its true place to be among the Flycatchers, near *Alectrurus*.

Fam. PIPRIDÆ ?

Subfam. PARDALOTINÆ ?

Genus PRIONOCHILUS*, n. g.

< *Pardalotus*, Temm.

Diff. Char.—*Margins of the beak minutely serrated.*

Rostrum longiusculum, subcompressum, mandibulis subæqualibus; culmine subcarinato, juxta basin recto, deinde usque ad apicem gradatim decurvato; commissurâ modice decurvatâ; gonyde sursum curvatâ. Maxilla haud emarginata, sed tomia mandibulæ utriusque per medietatem externam minutissimè serrata. Nares oblongæ, membranâ suprà tectæ.

Alæ mediocres, remige 1â spuriâ, 3â, 4â, et 5â subæqualibus.

Cauda brevis, rectricibus æqualibus.

Pedes subbreves, gressorii, acrotarsiis subscutellatis, paratarsiis integris. Digitus externus interiore longior, ad medium per longitudinis dimidium coadunatus.

Habitant in Malasiâ.

Species: 1. *P. percussus* (Temm.), Pl. Col. 394. f. 2. 2. *P. thoracicus* (Temm.), Pl. Col. 600. f. 1, 2. 3. *P. maculatus* (Temm.), Pl. Col. 600. f. 3.

Obs. The nearest affinity of this group is *Calyptomena*, Raff., to which it approaches in the structure of the beak and feet much more nearly than to *Pardalotus*. The serrations of the *tomia* appear not to have been hitherto noticed.

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* Πρίων, a saw; χεῖλος, a lip.

Fam. LANIADÆ?

Subfam. ———— ?

Genus ÆTHIOPS*, n. g.

Diff. Char.—*Beak subconical, slightly emarginate, dilated at the base.*

Rostrum subconicum, subelongatum. Maxilla ad basin paulo dilatata, juxta apicem compressa, leviter emarginata, apice paulo deorsum curvato, tomiis inflexis. Culmen subcarinatus, gradatim à basi ad apicem decurvatus. Nares ovatæ. Commissura leviter decurvata, gonys ascendens.

Alæ mediocres, rotundatæ, remige 1$^{\text{â}}$ spuriâ, 3$^{\text{â}}$, 4$^{\text{â}}$, et 5$^{\text{â}}$ subæqualibus.

Cauda breviuscula, rotundata.

Tarsi breves, acrotarsiis scutellatis, paratarsiis integris. Digiti mediocres, medius tarsum æquans, postico longior; externus internum paulo superans. Ungues breviusculi, modicè curvati, ad latera sulcati.

Habitat in Africâ occidentali. Species unica.

ÆTHIOPS CANICAPILLUS. *Æth. vertice, cervice, dorsoque canescente-cinereis, verticis lateribus, uropygioque canescente-albidis. Fronte, genis, gulâ, partibusque inferioribus omnibus nigerrimis. Alæ nigræ, tectricibus minoribus omnibus, majoribusque dorso proximis maculâ subapicali rotundatâ albâ. Cauda unicolor nigra, tectricibus superioribus nigrescente-plumbeis. Rostrum pedesque nigri.*

Long. tot. 5 poll. *Rostrum* ad rictum 7½ lin., ad frontem 6 lin., latum 3½ lin., altum 3 lin. *Ala* 2 poll. 8 lin. Rectrices medii 1 poll. 11 lin., externi 1 poll. 7 lin. *Tarsus* 8 lin. Digitus intermedius cum ungue 8 lin., externus 6 lin., internus 5½ lin., posticus 6 lin.

Hab. in insulâ Fernando Po. Mus. meo.

Obs. This singular generic form is very difficult to classify. The beak is somewhat similar in form to that of a Tanager, but its other characters and the African habitat forbid such a collocation. The beak also exhibits some resemblance to that of *Artamus*, but the shortness of the wings makes a marked contrast to that genus.

Fam. FRINGILLIDÆ.

Subfam. TANAGRINÆ.

Genus STEPHANOPHORUS†, n. g.

< *Tanagra*, Tem., < *Pyrrhula*, Vieill.

Diff. Char.—*Beak very short, tumid, of equal height and length.*

Rostrum breve, subconicum, mandibulis subæqualibus, intumidis; culmine gradatim deorsum, gonyde sursum incurvatis; commissurâ subrectâ, leviter deorsum curvatâ; maxillâ juxta apicem obsoletissimè emarginatâ. Nares subrotundæ.

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* Αἰθίοψ, a negro, in reference to the colour and habitat.

† Στέφανος, a crown; φέρω, to bear.

Alæ mediocres, rotundatæ, remigibus 3ª, 4ª (hâc longissimâ) et 5tâ ferè æqualibus.

Cauda mediocris, rectricibus subæqualibus.

Pedes mediocres, acrotarsiis scutellatis, paratarsiis integris. Digitus externus interiorem paulo excedens. Ungues mediocres, leviter curvati.

Ptilosis cærulescens, nitore sericeo. Vertex colore igneo insignis.

Habitat in Americâ meridionali.

Species unica, *S. cæruleus* (Vieill.), (*T. diadema*, Temm.), Pl. Col. 243.

Obs. The beak is more tumid and the under mandible more developed in this well-marked type than in any other of the *Tanagrinæ*, and it has hence been referred to the genus *Pyrrhula*. The marginal notch, however, together with the blue and silky plumage, and the geographical distribution, sufficiently prove the true place of this bird to be among the Tanagers, and in the vicinity of *Tanagra*, Lin. (restr.), and *Calospiza*, Gray (*Aglaia*, Sw.).

Fam. PICIDÆ.

Subfam. CELEINÆ.

The genus *Brachylophus*, as defined by Mr. Swainson, includes three very distinct groups: first, the Green Woodpeckers, which had previously been named *Gecinus* by Boié; secondly, the crimson-winged species, *miniatus*, *puniceus*, and *mentalis*, to which I propose to restrict Swainson's name *Brachylophus*; and thirdly, the short-thumbed Woodpeckers, which are here characterized.

Genus BRACHYPTERNUS*, n. g.

< *Picus*, Linn., < *Brachylophus*, Sw.

Diff. Char.—*Hind toe and claw very short, almost obsolete.*

Rostrum longitudine caput æquans, apice obtusè securiformi, culmine paulatim decurvato, acie laterali nullâ, commissurâ rectissimâ, gonyde paulo ascendente.

Alæ mediocres, remige 1ª subspuriâ, 4ª, 5ª (hâc omnium longissimâ) et 6ª subæqualibus.

Cauda mediocris.

Tarsus mediocris. Digitus intermedius ac versatilis tarsum æquiparantes, posticus cum ungue brevissimus, propemodum obsoletus.

Ptilosis: dorsum alæque aurantia aut rubra, facies et partes inferiores albido nigroque variegatæ.

Habitant in Indiâ, Malasiâ.

Species: 1. *B. aurantius* (Linn.), (*P. bengalensis*, Gm.; *P. nuchalis*, Wagl.; *B. hemipodius*, Sw.). 2. *B. goensis* (Gm.), (*P. peralaimus*, Wagl.). 3. *B. philippinarum* (Lath.), (*B. palalacca*, Wagl.). 4. *B. hæmatribon* (Wagl.). 5. *B. erythronotus* (Vieill.), (*P. neglectus*, Wagl.).

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* Βραχὺς, short; πτέρνα, a heel.

Fam. CHARADRIADÆ.

Subfam. CHARADRIANÆ.

The group of Plovers affords an instance in addition to those furnished by the genera *Ceyx, Alcyone, Jacamaralcyon, Tiga, Tridactylia, Halodroma,* and others, that the presence or absence of the hind-toe in birds becomes, under certain circumstances, a character of very small value in the natural arrangement. The fact seems to be, that when in any group the hind-toe becomes so slightly developed as to be unable to perform those functions of prehension or of progression which are its usual duties, the transition from the abortive state of this organ to its total disappearance becomes very unimportant. In the group of the Plovers too much weight has hitherto been attached to the presence or absence of the hind-toe; it has been made the groundwork of divisions into families and subfamilies, whereas the utmost value that can justly be assigned to it amounts only to that of a generic character. This is proved by the fact that the absence of the hind-toe is not coincident with the other and more extensive changes of structure in the group, so that it becomes indicative of analogy rather than of affinity, as the following table of the genera of *Charadrianæ* will show:—

A. Acrotarsia reticulate, wings pointed, plumage spotted.

Three-toed .... *Charadrius.*
Four-toed .... *Squatarola.*

B. Acrotarsia reticulate, wings pointed, plumage black, white, and grey, in large masses.

Three-toed .... *Eudromias. Hiaticula.*

C. Acrotarsia scutate, wings rounded, plumage black, white, and grey, in large masses.

I. Face unwattled.

Three-toed.. *Philomachus,* Mœhr. (*Hoplopterus,* Bon.)	*a.* wing-spine short, *P. coronatus* (Gm.). *b.* wing-spine long, *P. spinosus* (Linn.).
Four-toed .. *Vanellus,* Temm.	*a.* wing-spine short, *V. cristatus* (Linn.). *b.* wing-spine long, *V. cayennensis* (Gm.).

II. Face wattled.

Three-toed .... *Sarciophorus,* mihi.
Four-toed .... *Lobivanellus,* mihi.

The last two groups which have hitherto been united, the one with *Charadrius,* the other with *Vanellus,* are now for the first time defined.

Genus SARCIOPHORUS*, n. g.

< *Charadrius,* Gm.
Diff. Char.—*Three-toed, lores wattled.*

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* Σαρκίον, a caruncle; φέρω, to bear.

Rostrum ut in Charadriis.
Membrana loris affixa, nuda, erecta, in anticum protensa.
Alæ elongatæ, caudam vix superantes, remigibus tribus primariis subæqualibus. Spina pollicaris brevis, obtusa.
Cauda modicæ longitudinis, rectricibus æqualibus.
Pedes elongati, graciles, tridactyli, acrotarsiis scutellatis.

Habitant in Africâ, Asiâ, Australiâ.

Species : 1. *S. pileatus* (Gm.), Pl. Enl. 834. 2. *S. tricolor* (Vieill.), (*Charadrius pectoralis*, Wagl.). 3. *S. bilobus* (Gm.), Pl. Enl. 880.

Genus Lobivanellus*, n. g.

< *Parra*, Gm., < *Tringa*, Lath., < *Charadrius*, Wagl., < *Vanellus*, Cuv.

Diff. Char.—*Four-toed, lores wattled.*

Rostrum ut in Charadriis.
Membrana loris affixa, nuda, erecta, in anticum protensa.
Alæ elongatæ, caudam vix superantes, remigibus tribus primariis subæqualibus. Spina pollicaris valida, acuta. Cauda modicæ longitudinis, rectricibus æqualibus.
Pedes elongati, graciles, tetradactyli, acrotarsiis scutellatis.

Habitant in Africâ, Asiâ, Australiâ (Americâ ?).

Species: 1. *L. goensis* (Gm.), Pl. Enl. 807. 2. *L. gallinaceus* (Wagl.), Jard. Ill. Orn. ser. 1. pl. 84. 3. *L. ludovicianus* (Gm.), Pl. Enl. 835. 4. *L. senegalus* (Linn.), Pl. Enl. 362. 5. *L. albicapillus* (Vieill.), Sw. W. Af. v. ii. pl. 27. 6. *L. tricolor* (Horsf.), (*Ch. macropterus*, Wagl.). 7. *L. dominica* (Gm.), (*Ch. brissonii*, Wagl.). 8. *L. albiceps* (Gould), Proc. Zool. Soc. pt. ii. p. 45. 9. *L. cucullatus*, (Temm.), Pl. Col. 505.

The Secretary called the attention of the members to a new species of Monkey, allied to the green *Cercopitheci*, living at the Society's Menagerie.

The Monkeys allied to *Cercopithecus sabæus*, observes Mr. Ogilby, are now so numerous, that they may be considered to form a subgenus of themselves, at least for all the practical purposes of descriptive zoology. Four species have been already distinguished by M. Frederic Cuvier, *C. sabæus*, *faunus*, *griseus*, and *pygarythrus*. Colonel Sykes has described a fifth, *C. albogularis*, though it is certainly less closely allied to the others than they are among themselves; and there is now a fifth living in the Gardens. This species is most nearly related to *C. sabæus* and *pygarythrus*, between which it is intermediate in many of its characters. It may be described as follows :—

CERCOPITHECUS TANTALUS. *Cerc. suprà saturatè flavo-viridis, in artus cinerescens, subtus stramineus ; facie subnigrâ, circa oculos lividâ ; auriculis palmisque fuscis ; caudâ fuscâ ; apice caudæ, mystacibus et perinæo flavis ; tæniâ frontali albâ.*

Head, back and sides a mixture of yellowish brown and green, of

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* *Lobus*, a caruncle; *vanellus*, a Lapwing.

the same intense shade as that which prevails on the upper parts of the allied species, *C. sabæus* and *pygarythrus*; outer surface of the limbs of a clearer ashy grey colour; whiskers, throat, breast, belly, and inside of the limbs yellowish white; tail brown at the root, light grey at the tip; backs of the hands and feet light grey; face covered with very short hairs, black on the nose and cheeks, livid flesh-colour round the eyes, and light brown on the lips; eyebrows black, surmounted by a broad white fillet which passes across the forehead; nose very prominent and narrow between the eyes, but flatter and broader towards the extremity; ears and palms of the hands brown; scrotum surrounded by yellowish hairs; size and form of *C. sabæus*, but with a rounder head and shorter face.

The specimen here described was procured at Liverpool, but its previous origin is unknown.

A paper, in which Mr. Broderip proceeds with his descriptions of Mr. Cuming's shells, was next read.

HELIX REEVII. *Hel. testâ ovato-subpyramidali, anfractibus* 5 *ventricosis, lineis incrementi creberrimè obliquè striatis, ultimo maximo, cæteris duplò longiori, apice subplano, umbilico vix apparente, columellæ robustæ basi subsinuatâ, labii limbo reflexo, aperturâ cæruleo-albâ.*

Long. 3; lat. $2\frac{3}{8}$ poll.

Var. *a. Rubro-brunnea, epidermide ex albo brunnescente obtecta, fasciis latis nigricantibus insignis.*

Var. *b. Lineis fasciisque nigricantibus numerosis cincta.*

Hab. ad Luchban in Tayabas insulæ Luzon.

Legit H. Cuming in sylvis.

Var. *c. Tota rubro-brunnea anfractu basali nigrescente.*

Hab. ad Tayabas insulæ Luzon.

Legit H. Cuming in sylvis.

This fine *Helix*, named, at the request of Mr. Cuming, after Mr. Reeve, an assiduous collector, was found by the former at the localities above mentioned, adhering to the leaves of trees. The ground-colour is reddish brown, deepening on the body-whorl to rich, dark plum-colour, approaching to black. A brownish white *epidermis* covers the two first varieties, with the exception of certain intervals, through which the ground-colour is exposed in the form of lines and bands. Thus in var. *a.* three small cinctures of brown lines appear towards the upper part, and a broad brown band at the lower part of the fourth whorl. At the upper part of the body-whorl are two hair-like dark lines, and the middle and lower part of it is belted with four bold, broad, nearly black bands. In var. *b.* the body-whorl is belted and filleted with more numerous lines and bands, but none of the latter are so broad as they are in var. *a.* In all the varieties the *peritreme* and reflected lip are of a rich plum-colour, and the inside of the aperture is bluish white. The pattern resides in the *epidermis*, and, when the shell is plunged into water, disappears.

BULINUS ONYX. *Bul. testâ subpupiformi, umbilicatâ, lineis incre-*

menti obliquis creberrimè substriatâ, anfractibus 7, *ultimo maximo; anfractibus* 4 *primis sordidè albis, quinto et sexto castaneis, ultimo supernè castaneo, basi albo, labii reflexi margine lato et columellâ nigricantibus, aperturâ albâ.*

Long. $2\frac{1}{2}$; lat. $1\frac{1}{8}$ poll.

Hab. ad Calanang insulæ Luzon.

Legit H. Cuming in sylvis.

The above description is taken from a shell deprived of its *epidermis*, and I have only seen one with the *epidermis* on, and that one is not in good condition. The *epidermis* is dirty white. On the anterior part of the fourth whorl a band of longitudinal brown dashes, occurring at regular intervals, extends far upon the whorl from near the suture. A similar band skirts the anterior part of the body-whorl, which is belted with two whitish bands, the uppermost rather below the middle, and is greenish at the base. Upon plunging the shell into water the upper *epidermis* disappears, and exposes the ground-colour; but the greenish *epidermis* remains unchanged. The aperture of the shell almost looks as if it had been curtailed artificially, so suddenly does it terminate.

Bulinus Alberti. *Bul. testâ pyramidali, anfractibus sex, lineis incrementi obliquis creberrimè striatâ, anfractu ultimo cæteros vix æquante, apice acuto, rubro-brunneo, basi viridi; columellâ subsinuatâ et labii reflexi margine nigricantibus; aperturâ albâ.*

Long. $2\frac{6}{8}$; lat. $1\frac{6}{8}$ poll.

Var. *a. Strigis angulatis albidis et nigricantibus concinnè marmorata; anfractu basali fasciis* 2 *subalbidis cincto.*

Hab. ad montem Isarog insulæ Luzon.

Legit H. Cuming in sylvis.

Var. *b. Obscurior; anfractu quinto albido supernè unifasciato, anfractu basali albido trifasciato.*

Hab. ad Calanang insulæ Luzon.

Legit H. Cuming in sylvis.

This species, the most elegant of all the *Bulini* which I have yet seen, is named in honour of His Royal Highness Prince Albert. The form and rich but elegant colouring of the shell combine to make it very beautiful. The pattern, as in the two last species, resides in the *epidermis*, and, when the shell is plunged into water, disappears; but the green at the base remains unchanged, as in the last species.

Mr. Cuming found var. *a.* on the leaves of trees in the woods at the foot of Mount Isarog, in the province of South Camarines, at the south-east end of Luzon. It was very rare, for Mr. Cuming, after a search of many days, could only procure six specimens.

Var. *b.* was found in dense woods, also on the leaves of trees, in the province of the Laguna, at Calanang, in that island.—W. J. B.

April 27, 1841.

William Horton Lloyd, Esq., in the Chair.

The exhibition was resumed of the new species of Shells collected by H. Cuming, Esq. in the Philippine Islands, and the following description of new species, by W. J. Broderip, Esq., were read.

Helix (Carocolla) Reginæ. *Car. testâ hyalinâ, prasinâ, lineis incrementi obliquè striatâ, lineolis transversis creberrimè decussatâ suberectâ, anticè compressâ; anfractibus* 3, *ultimo latissimo, acuto, suturam versus concinnè cælato; aperturâ infrà angulatâ; labii margine subexpanso, acuto.*

Long. $\frac{4}{8}$; lat. $1\frac{1}{8}$ poll.

Hab. ad Sibongam Insulæ Zebu foliis arborum hærens, rarissima.

Legit H. Cuming in sylvis.

This rare *Carocolla* excels in beauty and delicacy all the land-shells that I have yet seen. Green is by no means a common colour in the testaceous mollusca generally; but in the pulmoniferous testaceans it is comparatively rare, and, in the cases where it occurs, generally resides in the *epidermis*, or forms a part of the pattern. But this elegant species, of a delicate transparent green, somewhat between the colour of an emerald and a chrysoprase, is more like a gem than a shell. It does not lie flat like most of the *Carocollæ*, but when placed with its aperture downwards, stands at a high angle. A light-coloured line marks the suture and the edge of the body-whorl, while the expansion of the lip (which expansion terminates at the angle of the aperture) is of a glassy clearness. On the under part of the shell, especially, the striæ formed by the lines of growth are crossed by other delicate and very frequent transverse lineations.

Var. *a. Anfractus basalis angulo brunneo lineatus.*

The animal of both varieties is grayish white.

Hab. ad Puerto Galero insulæ Mindoro foliis arborum hærens.

Legit H. Cuming in sylvis.

Helix (Carocolla) papyracea. *Car. testâ albo-flavescente, diaphanâ, lineis incrementi obliquè creberrimè striatâ; columellâ crassâ, excavatâ, latâ et elongatâ; labii limbo vix expanso.*

Long. $\frac{1}{2}$; lat. 1 poll.

Though this *Carocolla* may at first sight be taken for a variety of *Car. Reginæ*—and such was my original impression—a nearer inspection will detect the distinction between the shells. The spire in *Car. papyracea* is more elevated, and the shell stands at a higher angle; the expansion of the lip is not so wide, and it is not terminated at about half the distance from the outer edge to the columella (as it is in *Car. Reginæ*), but continues until it forms a slight angle below the columella. In *Car. papyracea* the edge of the expanded lip is the lowest part of the shell, whereas in *Car. Reginæ* the white continuous edge of the columellar lip is placed above a green portion of the base of the volution, which is prominent below it; the columella is also quite different; and these distinctions cannot be attributed to difference of age, for the most complete specimens of each which have furnished the comparison are full-grown.

Hab. ad Puerto Galero in insulâ Mindoro foliis arborum hærens.

Legit H. Cuming in sylvis.

HELIX (CAROCOLLA) DRYOPE. *Car. testâ subdiaphanâ, subpyramidali, lineis incrementi creberrimè striatâ et striis transversis levibus frequentissimè decussatâ; anfractibus* 4, *ultimo maximo acuto, ex albido virescente; apice, labii limbo, et umbilico nigro-castaneis; aperturâ auriculiformi, intùs iridescente.*

Long. $\frac{5}{8}$; lat. 1 poll.

Hab. ad St. Juan in provinciâ Cagayan insulæ Luzon, foliis arborum hærens.

Legit H. Cuming in sylvis.

The sculpture of this species resembles that of *Car. Reginæ*, but there the similitude ends. The termination of the aperture is below the line of the body-whorl. The shell consequently rests more on its base: it is much more opaque than *Car. Reginæ*, and has no angle at the aperture, the inside of which has the iridescence of mother of pearl. The sharp edge of the body-whorl is light yellow.

Var. *a. Planior albido- et luteo-virescens; anfractu basali maculis albidis obscuris guttato; basi flavescente; labii limbo ex albido flavescente.*

Hab. ad insulam Bureas, foliis arborum parvorum hærens.

Legit H. Cuming in sylvis.

In this variety, which is much flatter, the sharp edge of the body-whorl is whitish.

HELIX (CAROCOLLA) LISTERI. *Car. testâ complanatâ, umbilicatâ; anfractibus* 4, *lineis incrementi creberrimè striatis, ultimo maximo acuto; albido-fuscâ maculis brunneis guttatâ, et brunneo uni-fasciatâ; peritremate deorsùm flexo auriculari, albido; labii unidentati margine acuto, anticè lanceolato.*

Long. $\frac{5}{8}$; lat. $1\frac{7}{8}$ poll.

Hab. ad Albay insulæ Luzon, truncis arborum hærens.

Legit H. Cuming in sylvis.

Mr. Cuming had named this species *Car. Gallina*; but as it is designated as *Car. Listeri* on the boards of the British Museum, and as Lister appears to have been the first who figured it, but apparently from an imperfect shell, the latter name is retained.

In colour and in the direction of the form and shape of the aperture it bears much resemblance to *Helix auriculata*, figured by Mr. Swainson (Zoological Illustrations, 1st series) from a specimen formerly in the cabinet of Mr. C. Dubois, afterwards in mine, and now in the

British Museum; but in *H. auriculata* the whorls are comparatively rounded, and the body-whorl is quite round instead of having a sharp edge. *H. auriculata* is besides, in many individuals, dimpled with small depressions. These differences may be sufficient in the present state of our knowledge to constitute specific distinction; but whether they are in reality strong enough to form such a separation, may well be doubted. My present impression is, that *H. auriculata* and *H. Listeri* are identical; but I shall return to this subject when I have examined the whole of the cognate series in Mr. Cuming's collection.

HELIX (CAROCOLLA) PARMULA. *Car. testâ valdè complanatâ, umbilicatâ; anfractibus* 4, *lineis incrementi striatis, ultimo maximo, acuto; fuscâ, lineâ brunneâ suturam juxta albam fasciatâ, margine anfractûs ultimi acuto, albo; peritremate deorsùm flexo auriculari; labii anticè sublanceolati subalbidi margine subreflexo.*

Long. $\frac{3}{8}$; lat. $\frac{1}{2}$ poll.

Hab. ad Argao insulæ Zebu, arborum excelsorum truncis hærens.

Legit H. Cuming in sylvis.

This is a delicate though not showy species.

Var. *a. Elevatior, obscurè albens fasciâ suturali et centrali fuscis ornata.*

Hab. ad insulam Negros, truncis arborum hærens.

Legit H. Cuming in sylvis.

HELIX (CAROCOLLA) SIQUIJORENSIS. *Car. testâ subcomplanatâ anfractibus* 4, *lineis incrementi creberrimè striatâ; ultimo maximo, acuto; labii subreflexi limbo superiore haud deorsùm depresso; fuscâ, epidermide cinerascente coopertâ.*

Long. $\frac{5}{8}$; lat. $1\frac{6}{8}$ poll.

Hab. ad radices arborum et arbusculorum in insulâ Siquijor.

Legit H. Cuming in sylvis.

The ash-coloured *epidermis* which covers this species, upon immersion in water, disappears, to reappear when it is dry. When it is wet the dark brown ground-colour is exposed. The shell varies to a lighter whitish-brown hue. The sutural line is darker than the general colour, and the lower surface of the expanded edge of the lip is dark brown and shining in each variety. The termination of the upper edge of the lip is on the same line with the edge of the body-whorl.

HELIX (CAROCOLLA) THERSITES. *Car. testâ subcomplanatâ, gibbâ, tenuissimâ, hyalinâ, diaphanâ; anfractibus* 4, *lineis incrementi creberrimè striatis, ultimo anticè acuto, posticè subitò rotundato, gibbo; aperturâ magnâ; labii anticè reflexi limbo subreflexo, flavescente; anfractibus suturam versus et medio castaneo-fasciatis; nucleo castaneo.*

Long. $\frac{1}{2}$; $1\frac{3}{8}$ poll.

Hab. ad Calopan in insulâ Mindoro, foliis arborum hærens.

Legit H. Cuming in sylvis.

The deformed appearance of this species arises from the flattened and sharp edge of the body-whorl suddenly becoming rounded at about half way. The colouring is pretty, the chestnut bands showing to advantage on the transparent amber-colour of the shell. The young shell has no gibbosity.

Var. *a. Subdiaphana, fasciâ latissimâ nigro-castaneâ ornata.*

Hab. cum præcedente.

This variety is more opake, and the broad, blackish, chestnut band extends from the suture half-way down the whorls. The base of the shell is broadly bifasciated with the same dark colours, the narrowest band being nearest to the outside edge. The termination of the lip in this species is on the same line with the body-whorl.—W. J. B.

The next paper read was by G. B. Sowerby, Esq. This also consists of descriptions of Mr. Cuming's new species of shells.

HELIX MODESTA. *Hel. testâ acuminato-subovali, tenui, albicante, fasciis spiralibus badiis modestè ornatâ; spirâ acuminatiusculâ, apice obtuso; anfractibus* 4½ *subrotundatis, lævibus, lineis incrementi tenerrimè insculptis, ultimo maximo, ventricoso; suturâ distinctâ; aperturæ margine externo rotundato, interno supernè anfractu penultimo modificato; columellari recto, angulum efformante; peristomate paululùm reflexo, badio; columellâ rectâ, albâ, subincrassatâ.*

Long. 1·1; lat. 0·8 poll.

Hab. supra folia arborum, propè Catanauan provinciæ Tayabas insulæ Luzon, Philippinarum.

An extremely rare species, rather remarkable among its gay associates of the Philippine Islands for its unpretending modesty of colouring, as well as for its neat contour.

HELIX PYRAMIDALIS. *Hel. testâ oblongo-pyramidali, brunneâ, crassiusculâ; apice obtuso, saturatiore; fasciâ suturali nigro-brunneâ nonnunquam ornatâ; spirâ acuminatâ; anfractibus* 5½, *leviter rotundatis, lævibus, lineis incrementi tenerrimè insculptis, ultimo majori, rotundato; aperturæ margine externo rotundato, interno supernè anfractu penultimo modificato; columellari recto, angulum efformante; peristomate reflexo, subincrassato, brunneo; columellâ rectâ, crassiusculâ, albâ.*

Long. 1·5; lat. 0.8 poll.

Hab. supra folia arborum, ad insulam Cuyo, Philippinarum.

This species most nearly resembles our *Helix incompta*, but may be easily distinguished by its proportions, the number of volutions, and its longer, more pyramidal spire.

HELIX ACUMINATA. *Hel. testâ acuminato-pyramidali, brunneâ, nigrâ, crassiusculâ; apice obtusiusculo, pallidiore, spirâ acuminato; anfractibus* 5, *planulatis, lævibus, nitidis, lineis incrementi tenerrimè insculptis, ultimo majori, medianè subangulato; aperturâ anticè subeffusâ; peristomate externo subincrassato, reflexo, brunnescente-nigro; columellâ albâ, subincrassatâ, subdeclivi.*

Long. 1·3; lat. 0·8 poll.

Hab. supra folia arborum ad insulam Cuyo, Philippinarum.

Two specimens only of this species have been found; it somewhat resembles the last, but may be known from that by its more acuminated shorter spire, and by the sides of the volutions being nearly straight, and not rounded. Remains of an opake hydrophanous *epidermis* are to be seen on both the specimens.

HELIX OBLONGA. *Hel. testâ oblongâ, subcylindricâ, tenui, brunneâ, obscurâ, subrugosâ; anfractibus senis, latis, ventricosis, ultimo majori; suturâ distinctâ; aperturâ subovali, posticè anfractu ultimo modificato; peristomate amplo, subincrassato, reflexo; columellâ albâ, subincrassatâ, rectiusculâ; umbilico mediocri.*

Long. 1·5; lat. 0·75 poll.

Hab. supra folia arborum, ad insulam Luban, Philippinarum.

Somewhat like *H. Oomorpha,* but distinguished easily by its proportions, by the number of its volutions, and by the nature of its *peritreme.*

HELIX FRAGILIS. *Hel. testâ subglobosâ, tenuissimâ, lævi, viridescente; anfractibus tribus, raptim crescentibus, ultimo maximo, lineis interruptis fasciisque duabus anticis albis; aperturâ magnâ; peristomate tenui, subreflexo; columellâ tenui, rectiusculâ.*

Long. 1·; lat. 1·15 poll.

Hab. supra folia arborum, prope Tanauan ad insulam Leyte, Philippinarum.

One of the most delicate and fragile of the Helices, which in general form somewhat resembles our common *Helix aspersa*; the white interrupted lines as well as the two white bands, consist of hydrophanous epidermal matter.

HELIX BRUNNEA. *Hel. testâ subglobosâ, crassiusculâ, lævi, obscurâ, brunneâ, albido nigroque fasciatâ; spirâ brevi, obtusâ; anfractibus quatuor, subrotundatis, ultimo maximo, ventricoso; aperturâ latè semilunari; peristomate nigro, subexpanso, crassiusculo, reflexo; labio columellari lato, albo; columellâ declivi, incrassato, albo.*

Long. 1·3; lat. 1·7 poll.

Hab. supra folia arborum, prope Puerto Galero ad insulam Mindoro dictam, Philippinarum.

Usually of a rich brown colour, the circumference having a black band posteriorly, and a whitish band anteriorly, in front of which there are several whitish and brown bands alternately: the circumference of the columellar lip is nearly black.

May 11, 1841.

William Horton Lloyd, Esq., in the Chair.

Mr. Gould read his paper upon the Menura or Lyre-bird (*Menura superba*) of Australia. This bird, like the Brush Turkey (*Talegalla Lathami*, Gould), has been classed by ornithologists in various groups, but perhaps most generally it has been regarded as one of the Gallinaceous order. Mr. Gould's observations, however, all tend to prove that it ought to be arranged among the Insessores, and is most nearly allied to certain South American genera of Ground Thrushes, such as *Pteroptochos*, *Scytalopus*, &c.

The Menura is a terrestrial bird, and but rarely takes to the wing. When pursued it generally escapes by running into the thick brushwood: it is so extremely shy, the author observes, that of all the birds he ever met with the Lyre-bird is by far the most difficult to procure.

Whilst among the brushes he has been surrounded by these birds, pouring forth their loud and liquid calls, for days together without being able to get a sight of them, and it was only by the most determined perseverance and extreme caution that he was enabled to effect this desirable object, which was rendered the more difficult by their often frequenting the almost inaccessible and precipitous sides of gullies and ravines. Its food appears to consist principally of insects, especially those of the Coleopterous order, and Centipedes. Mr. Gould also found the remains of shells of snails in the gizzard, which he remarks is strong and muscular. The nest is placed either on the ledge of a projecting rock, at the base of a tree, or on the top of a stump, but always near the ground.

The natives state that the eggs are two in number, and of a light colour, freckled with red.

May 25, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A letter was read from the Society's Corresponding Member, J. M'Clelland, Esq. It states that several Birds and Quadrupeds had been forwarded from India for the Society's Menagerie, and likewise that Mr. M'Clelland had sent a collection of the rarer Indian freshwater fishes for the Museum.

Some notes, from Sir Robert Heron, Bart., were next read. These notes relate to the breeding of Gold-fishes in the author's menagerie. Sir R. Heron observes, that about two out of five of the specimens hatched are deficient of the dorsal fin, and about two in a hundred, or rather more, have a triple tail-fin, and as many have the anal fin double. All the deformed fishes are separated from the others and placed in a pond by themselves, but they do not produce a greater proportion of deformed offspring than the perfect fishes.

The following paper, by George Gulliver, Esq., F.R.S., entitled "Observations on the Blood-corpuscles of the order *Feræ*," was then read.

"It appears to me that a systematic and comprehensive set of observations is yet wanting on the blood-corpuscles of the different orders of the class Mammalia, for the subject is interesting in connexion with physiological questions now perpetually arising, and which may be expected to multiply as inquiries in minute anatomy are extended.

"In the order *Feræ* the result of my observations will show that the size of the blood-discs has a general relation to the different families. Although some exceptions may appear, these will probably fall into order as our knowledge of the subject becomes more complete; and it must be recollected that zoologists differ as to the exact affinities of a few of the animals in question.

"In the *Insectivora* the size of the corpuscles is considerably smaller than in the *Plantigrada*. The corpuscles of this latter family are very uniform in size, and, as far as I have at present observed, larger than those of the other species of the *Feræ*, with the exceptions afforded by the genera *Canis, Lycaon, Hyæna, Lutra*, and *Phoca*. The corpuscles of the common species of the two latter, and of the Dog, are the largest I have yet found in the order. The most minute corpuscles of the *Feræ* were also found in the family *Carnivora*. In the *Viverridæ* and *Felidæ* the corpuscles appear to be very small, as compared with those of the *Phocidæ* and *Canidæ*; and in the genera *Paradoxurus* and *Herpestes* the corpuscles are, for the most part, remarkably so, especially in the *Paradoxurus Bondar**, in which animal they only slightly exceed those of the Goat in size, as noticed in the 'Proceedings of the Society,' Nov. 24, 1840. Among the Cats there is a great resemblance of the corpuscles, which are only just appreciably larger in the Lion, Tiger, Chetah, and Leopard, than in the domestic Cat, so that it would require a nice observation to detect any difference. In the Serval and Norway Lynx the corpuscles, obtained after death from the heart, appeared to be fully as large as those of any other species of the genus; the corpuscles of the Ocelot and Persian Lynx presenting the smallest size. But as the blood was obtained from the two last species during life, the observations were not quite satisfactory for comparison, as the corpuscles soon undergo changes after death*, and are very liable to certain alterations quickly after being abstracted even from the living animal†. In the Dog they were uniformly found to be slightly larger than in the Fox and some other congenerous species; and in the Striped and Spotted Hyænas the corpuscles closely resemble those of the genus *Canis*, and are therefore distinctly larger than in the *Viverridæ* and *Felidæ*, with both of which the Hyæna has been associated. The corpuscles of the *Bassaris* approximate pretty nearly to those of the *Ursidæ*.

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* In the Menagerie of the Zoological Society this animal is called *Para-*

"On the whole then, although there is considerable diversity in the magnitude of the red particles of the order, there is generally a well-marked relation between these and the different families. Thus the blood-corpuscles of the *Plantigrada* may be immediately distinguished from those of the *Viverridæ*. Adopting Mr. Waterhouse's subdivisions of the *Carnivora*, they would stand as follows, if set down in the order of the size of their blood-discs:—Seals, Dogs, Bears, Weasels, Cats, Viverras. The difference in size is generally quite distinct between the corpuscles of the first two and last two tribes, the discs of the Weasels forming the connecting link, and closely approximating to those of the Cats. The corpuscles of the Otter, however, are much larger than any I have yet seen of the rest of the *Mustelidæ*, and in fact agree very nearly in size with the corpuscles of the Seals and Dogs.

"It has been stated, that in the *Carnivora* the corpuscles are intermediate in size to those of the omnivorous species and of the strictly vegetable feeders—smaller in the *Carnivora*, for example, than in Man and the *Quadrumana*, but larger than in the *Ruminantia*; and the same assertion has been extended to the *Marsupiata*, especially that the red particles of the *Perameles*, which derives its nourishment from the greatest number of organized substances, are larger than the particles either of the carnivorous Dasyure or of the herbivorous Kangaroo.

"This opinion is not supported by numerous measurements given by me in the 'Philosophical Magazine' for January, February, March

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doxurus Typus, but I have been assured that it is the *P. Bondar* of authors; it is the same species as that designated *P. Typus* in the Phil. Mag. for Jan. 1840, p. 28.

* See Lond. and Edin. Phil. Mag. for March 1840, p. 195.

† *Ibid*, Nov. 1840, p. 325.

and August, 1840. In one of the Ruminants indeed the corpuscles are singularly minute, but in another granivorous animal they are as singularly large; and they are larger in several of the Ruminants than in some of the *Carnivora*. Among the marsupial animals, although the corpuscles of the *Perameles* slightly exceed those of the Viverrine Dasyure in size, yet in the Ursine Dasyure the corpuscles are larger than in either, and just as large too as those of Bennett's Kangaroo."

An abstract of the measurements of the blood-corpuscles of the order *Feræ* is subjoined.

Measurements of the Blood-corpuscles of the order Feræ.

The measurements are all expressed in fractions of an English inch, and, for the sake of brevity, the average-sized corpuscles only are mentioned, as deduced from numerous observations in each species.

INSECTIVORA.	
Talpa Europæa, *Linn.*	1·4747
Sorex tetragonurus, *Herm.*	1·4571
Erinaceus Europæus, *Linn.*	1·4085
PLANTIGRADA.	
Meles vulgaris, *Desm.*	1·3940
Ursus maritimus, *Linn.*	1·3870
—— Arctos, *Linn.*	1·3732
—— Americanus, *Pallas.*	1·3693
—— ferox, *Lewis* & *Cl.*	1·3530
—— labiatus, *DeBlainv.*	1·3728
Procyon lotor, *Cuv.*	1·3950
Nasua fusca, *Desm.*	1·3789
—— rufa, *Desm.*	1·3878
Basaris astuta, *Licht.*	1·4033
CARNIVORA.	
Paradoxurus binotatus	1·4660
—— leucomystax, *Gray*	1·4236
—— Bondar	1·5693
Canis familiaris, *Linn.*	1·3542
—— Dingo, *Blum.*	1·3397
—— Vulpes, *Linn.*	1·4117
—— fulvus, *Desm.*	1·3920
—— argentatus, *Desm.*	1·3888
—— lagopus, *Linn.*	1·3888
Canis aureus, *Linn.*	1·3860
—— mesomelas, *Schreb.*	1·3645
—— Lupus, *Linn.*	1·3625
Lycaon tricolor, *Brookes.*	1·3801
Hyæna vulgaris, *Desm.*	1·3735
—— crocuta, *Linn.*	1·3820
Herpestes griseus, *Desm.*	1·4662
—— Javanicus?	1·4790
—— Smithii, *Gray*	1·4466
Viverra Civetta, *Linn.*	1·4274
—— tigrina, *Schreb.*	1·5365
Felis Leo, *Linn.*	1·4322
—— concolor, *Linn.*	1·4465
—— Tigris, *Linn.*	1·4206
—— Leopardus, *Linn.*	1·4319
—— jubata, *Linn.*	1·4220
—— pardalis, *Linn.*	1·4616
—— domestica, *Brisson.*	1·4404
—— Caracal, *Gmelin*	1·4684
—— cervaria, *Temm.*	1·4220
—— Serval, *Linn.*	1·4129
Galictis vittata, *Bell.*	1·4175
Mustela Zorilla, *Desm.*	1·4270
—— furo, *Linn.*	1·4134
Lutra vulgaris, *Erxl.*	1·3502
Phoca vitulina, *Linn.*	1·3281

The next paper read was from W. J. Broderip, Esq., in which the author resumes his descriptions of Mr. Cuming's shells.

HELIX (CAROCOLLA) VIRGO. *Car. testâ subcomplanato-globosâ, nitidâ, subdiaphanâ, lineis incrementi obliquis creberrimè striatâ, suturis et anfractûs basalis angulo subelevatis subcrenatis, vix umbilicatâ; aperturâ auriculato-angulatâ; labii limbo subreflexo.*

Var. *a. Alba, labii limbo purpureo-brunneo.* Long. $\frac{5}{8}$; lat. $1\frac{4}{8}$ poll.
Var. *b. Tota alba.*
Hab. ad insulam Zebu, foliis arborum hærens.
Legit H. Cuming.

The entirely white variety of this delicate shell (which has the appearance of being framed of the purest wax overlaid with a glassy transparent enamel) is rather smaller than var. *a.* The animal in both varieties is of a light bluish green, so that when it is withdrawn into the transparent shell it produces a strong resemblance to *Carocolla Reginea*; and indeed, when Mr. Cuming first saw them, he for a moment thought that he had found large specimens of that lovely shell; but when the animal was taken out, the delusion vanished.

HELIX (CAROCOLLA) DEALBATA. *Car. testâ sordidè albâ, subflavescente, subdiaphanâ, subglobosâ, lineis incrementi obliquis creberrimè substriatâ, vix subumbilicatâ; aperturâ auriculatâ, magnâ; labii limbo vix substriato.* Long. $\frac{10}{12}$; lat. $1\frac{4}{8}$ poll.
Hab. in insulâ Siquijor, foliis arbusculorum hærens.
Legit H. Cuming.

The dim and sordid white of this species is enriched when the greyish white animal is withdrawn into the shell.

HELIX (CAROCOLLA) PUELLA. *Car. testâ globosâ, diaphanâ, lineis incrementi obliquis creberrimè substriatâ; aperturâ auriculato-rotundatâ; labii limbo subreflexo.*
Hab. in insulâ Camiguing, foliis arbusculorum adhærens.
Var. *a. Alba, anfractu basali lineâ brunneâ subcentrali cincta.*
Var. *b. Tota alba.*
Legit H. Cuming.

The colour of the animal is dark greyish white.

HELIX (CAROCOLLA) ROTA. *Car. testâ complanatâ, rotundatâ, subdiaphanâ, umbilicatâ, supernè lineis elevatis, acutis, infrà lineis elevatis haud acutis, concentricis, regularibus corrugatâ, flavescente; anfractibus supernè medio bilineatis, anfractus basalis infrà unilineati angulo acuto, dentato, unilineato; lineis castaneis; aperturâ auriculatâ; peritrematis unidentati limbo subexpanso albo.* Long. $\frac{3}{8}$; lat. 1 poll.
Hab. in insulâ Siquijor, arborum truncis hærens.
Legit H. Cuming.

The animal of this elegantly worked *Carocolla* is yellowish, somewhat like the ground-colour of the shell, which is exquisitely sculptured after the manner of engine-turned trinkets. Above, the elevated concentric lines are sharp, and the shell on that side has somewhat the appearance of a flattened *Scalaria*: beneath, the elevated lines are rounded, and radiate very regularly from the open *umbilicus.* The chestnut line that borders the sharp dentated edge of the angle of the body-whorl is, beneath, interrupted with white bead-like elevations. All the four chestnut lines of the body-whorl can be seen through the shell when it is placed with the lower side uppermost.

Helix (Carocolla) Zebuensis. *Car. testâ complanato-convexâ, solidâ, subumbilicatâ, purpurascente; lineis incrementi obliquis creberrimè striatâ; suturis acutis subelevatis; anfractûs basalis angulo acuto; aperturâ cæruleo-albâ, acuto-auriculari; labii limbo nigro-castaneo, subexpanso, subacuto; epidermide fuscâ, subcrassâ.* Long. $\frac{5}{8}$; lat. $1\frac{2}{8}$ poll.

Hab. ad Dalaguete in insulâ Zebu, foliis arborum hærens.

Var. *a. Albido-fusca nigro-castaneo interruptè lineata et maculata.*

In this variety the edge of the whorls above the suture is considerably elevated with a gutter or furrow on the upper side. The brown interrupted lineations take the form of bands running in the directions of the whorls, and the lower side of the body-whorl is marked immediately under the edge of the angle with a circle of large, well-defined, tessellated spots, which reach to the edge of the angle of the whorl.

Var. *b. Fusca anfractibus suturam juxta obscurè maculatis.*

In this variety the angle of the whorl next to the body-whorl is elevated, but there is no gutter above.

Var. *c. Albescens, suturis et anfractûs basalis angulo nigro-castaneo maculatis, infrà nigro-castaneo creberrimè tæniata.*

In this variety there is no elevation of the suture; the broad tessellated band near the angle of the body-whorl below, and the interrupted spotted and lineated bands which ornament the lower side of the shell, are neatly and prettily disposed.

Var. *d. Fusco-albescens rubro-brunneo obliquè strigata.*

In this variety the edge of the penultimate whorl is elevated, and has a slight gutter on the upper side. The shell beneath is obscurely lineated in the direction of the whorl, and the red-brown dashes radiate from the angle of the whorl to the interrupted lineations which gird it. On the upper side the bold oblique stripes of the same colour completely cross the whorls.

Var. *e. Tota fusca.*

In this variety the angle of the upper whorls is very much elevated.

The ground-colour of all these varieties is a purple or red-brown, and the pattern of the variegated specimens resides in the *epidermis*, or rather is produced by the intermixture of the ground-colour of the shell and of the *epidermis*. Thus, if any of the variegated varieties be immersed in water, the pattern vanishes as long as the shell remains wet; when it is dry, the pattern is restored. If, for instance, var. *a.* and var. *e.* be immersed, the general colour becomes identical, and the dark interrupted lineations of the former can hardly be traced. The absence or presence of the elevation of the edge of the upper whorls, in the different varieties of this species, shows that such a conformation cannot be trusted as a specific character. The animal is a dark purplish brown.—W. J. B.

Mr. Yarrell exhibited a British example of the *Motacilla alba* of

Linnæus, which had been shot at Kingsbury. Two pairs of this species of Wagtail were seen by Mr. Bond near the reservoir in the early part of the present month, and, although they were very shy, that gentleman, who furnished Mr. Yarrell with the specimen exhibited, succeeded in shooting three of them, two males and one female.

M. Leonard read a paper on the intelligence of animals, which he illustrated by means of two pointer dogs which he had trained for the purpose.

To show that these animals possessed the power of comparison, he placed different objects upon the ground, such as a glove, a roll of paper, a small box, &c., and having kept similar objects himself, he showed them one after another to either of the dogs, and desired the animal to fetch that which was like it from the ground. The dogs performed this task correctly, and all others which they were desired.

Cards, with numbers from 1 to 9 painted upon them, were placed upon the ground, and the dogs fetched any particular number they were bidden: a number brought, M. Leonard ordered the dog to take back again and exchange for another number, and at the same time to deposit it in the place of that number. The dogs also selected a card of a particular colour, when desired, from among many of different colours. Pieces of bread were placed on the ground, and in placing them, their master called them by the names of different numbers in an irregular manner, and afterwards ordered the dogs to fetch the piece of bread he had called a certain number. These and various other experiments (some with pieces of meat) were all performed correctly, and tended to show the great intelligence of the animals and the control which their master had obtained over them.

The dogs were named Phylax and Braque, and either dog, upon his name being called, performed the task he was ordered; but one of them appeared to be more quick than the other.

June 8, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

The following paper, "On the Blood-corpuscles of Marsupial Animals," by George Gulliver, Esq., F.R.S., was read.

"As far as I have had an opportunity of observing, the blood-corpuscles of marsupial animals possess the common circular form, and, compared with the red particles of other Mammals, are of rather large size, being nearly allied in this respect to the corpuscles of Man and the *Quadrumana*, and slightly thicker than the corpuscles of the *Quadrumana* and those of the human subject.

"It is remarkable that the corpuscles of two carnivorous *Marsupiata* should differ as much in size as the corpuscles of any other two species of the order. This fact, however, would appear to be not altogether devoid of interest, for the corpuscles of different families of the placental *Carnivora* also exhibit great diversity of magnitude, as may be seen by reference to the 'Observations on the Blood-corpuscles of the Order *Feræ*,' in the Proceedings of the Zoological Society, May 25, 1841. Now the corpuscles of the Ursine Dasyure are of large size, like those of the *Canidæ*, and the corpuscles of the Viverrine Dasyure are considerably smaller, like those of the *Felidæ* and *Viverridæ*. Hence it would be interesting to inquire whether the blood-corpuscles of the different tribes of marsupial animals do not generally present the same characters as the corpuscles of the corresponding types of the placental series. But the few observations which I have been able to make on the blood of the former order are by no means sufficient to admit of generalization. It may be noticed, however, that the corpuscles of an insectivorous species, the Perameles, are nearly as small as those of the Viverrine Dasyure, and that the corpuscles of the Wombat are of much larger size.

"The measurements which I have made, as opportunities occurred, of the blood-discs of the *Marsupiata* are here for the first time revised, arranged together, and extended by some new observations. The averages, which I had not previously estimated, are also now given; these are set down at the bottom, beneath the lines; the two measurements immediately above the latter indicate the sizes of the large and the small corpuscles, and all the other numbers were obtained from the common-sized discs. As usual, the measurements are all given in fractions of an English inch.

"*Measurements of the Blood-corpuscles of Marsupial Animals.*

"1. Virginian Opossum (*Didelphis Virginiana*, Temm.).

1·3600 } common sizes.
1·3530 }
1·4570 small size.
1·2900 large size.

Thickness of discs.
1·12,000

1·3557 Average.

“2. Viverrine Dasyure (*Dasyurus viverrinus*, Geoff.).

1·4000
1·4800
1·3555

Average.. 1·4056

“3. Ursine Dasyure (*Dasyurus ursinus*, Geoff.).

1·3600
1·3428
1·4365
1·3000

Average.. 1·3534

Thickness.
1·12,000
1·10,000

1·10,910

“4. Rabbit Perameles (*Perameles Lagotis*, Reid).

1·4572
1·4000
1·3428
1·4800
1·3200

Average.. 1·3902

“5. Bennett's Kangaroo (*Macropus Bennettii*, Waterh.).

1·3600
1·3432
1·4000
1·3200

Average.. 1·3535

“6. A small Kangaroo (*Halmaturus Derbyanus ?* Gray).

1·3554
1·3432
1·3200
1·4000
1·3000

Average.. 1·3405

Thickness.
1·12,000
1·10,000

1·10,910

“7. Vulpine Phalanger
(*Phalangista vulpina*, Desm.).

1·3600
1·3530
1·5000
1·2900

Average.. 1·3617

“8. Minute Phalanger
(*Phalangista nana*, Geoff.).

1·4000
1·3760
1·3554
1·6000
1·3000

Average.. 1·3856

“9. Squirrel Flying Opossum (*Petaurista sciureus*, Geoff.).		“10. Wombat (*Phascolomys Wombat*, Per. et Lesu.).	
	1·3600		1·3600
	1·4800		1·3500
	1·3000		1·3200
			1·3048
Average ..	1·3661		1·5333
			1·2900
		Average ..	1·3456.”

The next paper read was by G. B. Sowerby, Jun., Esq., and is entitled “Descriptions of eight new species of the genus *Ranella*,” in the collection of Mr. Cuming.

1. **Ranella vexillum**, Conch. Illustr., f. 3. *R. testá ovali, ventricosá, subacuminatá, pallidè brunneá, transversè striatá, fasciis rufescentibus elevatis noduliferis cinctá; varicibus irregularibus, decumbentibus, latis; aperturá magná albá, intùs griseo fasciatá, posticè vix canaliferá, anticè in canalem brevem rectum, latum terminante; labio interno sublævi decumbente, dentibus lævibus paululùm incrassato; labio externo subexpanso, leviter undulato, dentibus ferè obsoletis intùs incrassato.*

Long. 3·40; lat. 2 poll.

Hab. ad (Chiloe) Conception.

Mr. Cuming collected specimens at rocky places from three to six fathoms deep. The outer lip is more expanded, and the knotted brown bands are narrower and more numerous than in *R. argus*.

2. **Ranella cruentata**, Conch. Illustr., f. 5, 5*. *R. testá subquadratá, rugulosá albá vel pallidè fulvá, rubro-maculatá, inter varices ad angulum anfractuum tuberculis magnis tribus, in medio tribus minoribus; varicibus elevatis, utrinque foveolatis; aperturá paululùm angustatá, extremitatibus validissimè canaliferis; labio interno decumbente, dentibus acutis instructo, maculis sanguineis 5 ad 6 in medio picto; labio externo complanato, subdigitato, intus dentibus validis instructo.*

Long. 1·50; lat. 1·20 poll.

Hab. ad insulam Ticao, Philippinarum. H. Cuming legit.

Found on coral reefs. This species is remarkable for the well-defined spots of blood-red colour by which that part of the inner lip which rests upon the body-whorl is ornamented. A darker variety occurs, in which the spots are of a strong brown colour.

3. **Ranella nana**, Conch. Illustr., f. 6. *R. testá elongato-ovali, lævi, inter varices nebuloso-purpureá, in medio anfractu fasciá albá cinctá, ad angulum anfractuum tuberculis acutis quatuor, anteriùs tuberculis parvis; varicibus prominentibus, anticè laqueatis, posticè canalem exhibentibus; aperturá ovali, ad extremita-*

tes validissimè canaliferâ; labio interno granoso; labio externo valdè denticulato.

Long. 1·80; lat. 1·05 poll.

Hab. ad insulam Panama, Philippinarum. H. Cuming legit.

Found in coarse sand at seven fathoms.

4. RANELLA ALBO-FASCIATA, Conch. Illustr., f. 14. *R. testâ ovali, subcompressâ, granulosâ, fusco-purpureâ, fasciâ albâ in medio anfractu cinctâ, lineis moniliformibus numerosis et ad angulum 6 ad 7 tuberculis cinctâ; varicibus granuloso-tuberculiferis; aperturâ ovali, ad extremitates validissimè canaliferâ; labio interno granoso; labio externo valdè denticulato.*

Long. 1·80; lat. 1·20 poll.

Hab. ad insulam Panama, Philippinarum.

Much broader and more completely granulated than the former, which is nearly all over smooth. In this respect our shell resembles *R. granulata*, Lam., but it is neither so oval nor so compressed, the varices are more strongly marked, and the posterior canal is more perfect.

Found in coarse sand at 10 fathoms.

5. RANELLA RHODOSTOMA, Conch. Illustr., f. 10. *R. testâ subquadratâ, rugulosâ, granulatâ, pallidè fulvâ, rufo-punctatâ et maculatâ, inter varices tuberculis prominentibus tribus ad angulum, tribus in medio anfractu; aperturâ roseo-purpureâ, paululùm angustatâ, ad extremitates valdè canaliferâ; labio interno granuloso propè canales transversè dentato, labio externo sub-expanso, undulato, intùs dentato; varicibus granoso-tuberculatis, validis, utrinque foveolatis.*

Long. 1·15; lat. ·85 poll.

Hab. ad insulam Masbate, Philippinarum.

Found on coral reefs by Mr. Cuming. It is a pretty little species with a delicately purple aperture.

6. RANELLA SUBGRANOSA, Conch. Illustr., f. 18. *R. testâ ovali, subangulatâ, purpureo-fuscâ, brunneo-fasciatâ et maculatâ, transversè lineis elevatis, moniliformibus alternantibus striatâ; ad angulum anfractuum tuberculis acutis; varicibus elevatis, utrinque subfoveolatis, granoso-tuberculatis; aperturâ ovali, albâ, intùs pallidè purpureâ; canali postico lato, antico subrecurvo, lato; labio interno tenui, posticè dentato anticè extanti; labio externo crenulato validissimè dentato, ad canalem posticum aculeato, anticè subexpanso.*

Long. 2·85; lat. 1·70 poll.

Hab. ad sinus Manillæ. H. Cuming legit.

This species very nearly resembles *R. elegans*, Beck, Chemn. 1270, Conch. Illustr., f. 17, of which it may perhaps be only a local variety. Our shell is of a more oval shape and is more evenly granulated in every part. Found in sandy mud at ten fathoms.

7. RANELLA NEGLECTA, Conch. Illustr., f. 22. *R. testâ subquadratâ, brevi, lineis granulatis transversè striatâ, pallidè fulvâ,*

fusco-maculatâ; inter varices ad angulum posticum tuberculis tribus magnis, in medio tribus ad quatuor parvis, prope caudam uno, et aliquando serie moniliformi tuberculorum parvorum; varicibus crassis liratîm granulosis posticè foveolatis; aperturâ ovali albâ; canali postico brevi, recto; canali antico brevi, subrecto; labio interno decumbente, granulato, prope canalem posticum acutè denticulato; labio externo, minutè denticulato, propè canales solùm reflexo.

Long. 1·60; lat. 1·15.

Hab. ad insulam Ceylon.

This shell, which is now common, differs from *R. crumena* in the following respects: it is shorter, the tubercles are more obtuse, the canals are shorter and straighter, the outer lip is scarcely reflected, and the inner lip is not raised at the caudal extremity.

8. Ranella rugosa, Conch. Illustr., f. 7. *R. testâ ventricosâ, granulosâ, angulatâ, pallidè fulvâ, fusco-maculatâ; inter varices ad angulum posticum tuberculis tribus obtusis, granulosis, inter granula fusco interrupto-lineatis, in medio lineâ duplicatâ moniliformi; caudam versùs lineis quinque alternantibus moniliformibus; varicibus crassis, granoso-tuberculatis, utrinque validissimè foveolatis; canali antico tortuoso, magno; aperturâ rotundato-ovali albâ, canali postico sub-elongato; labio interno tortuoso, propè extremitates validè extanti; labio externo reflexo, extùs laqueato, intùs quinquefariam bi-denticulato, denticulis foveolato.*

Long. 2·30; lat. 1·50.

Hab.

This species has not the thickness, flatness, nor the elongated, curved, posterior canal of *R. bufonia*, nor are the tubercles so large.

A fine specimen of the *Trogon Temnura*, presented by C. Clarke, Esq., British Consul at Cuba, was exhibited.

Mr. Yarrell laid before the Meeting the numbers eleven to twenty-four of Mr. Audubon's new royal octavo edition of his birds of North America.

June 22, 1841.

Owing to the removal of the Society from Leicester Square to Pall Mall at this time, no Meeting took place.

July 13, 1841.

Professor Owen, Vice-President, in the Chair.

The following letter, addressed to Mr. Waterhouse, from James Brooke, Esq., was read:—

"Singapore, 25th March, 1841.

"My dear Sir,—I am happy to announce the departure of five live Orang Utans by the ship Martin Luther, Captain Swan, and I trust they will reach you alive. In case they die, I have directed Captain Swan to put them into spirit, that you may still have an opportunity of seeing them. The whole of the five are from Borneo: one large female adult from Sambas; two, with slight cheek callosities, from Pontiana; a small male, without any sign of callosities, from Pontiana likewise; and the smallest of all, a very young male with callosities, from Sadung. I will shortly forward a fine collection of skulls and skeletons from the north-west coast of Borneo, either shot by myself or brought by the natives, and I beg you will do me the favour to present the live Orangs and this collection to the Zoological Society. I have made many inquiries and gained some information regarding these animals, and I can, beyond a doubt, prove the existence of two, if not three distinct species in Borneo.

"First, I will re-state the native account; secondly, give you my own observations; and thirdly, enter into a brief detail of the specimens hereafter to be forwarded.

"1st. The natives of the north-west coast of Borneo are all positive as to the existence of two distinct species, which I formerly gave you by the names of the *Mias Pappan* and *Mias Rambi;* but I have since received information from a few natives of intelligence that there are three sorts, and what is vulgarly called the *Mias Rambi* is in reality the *Mias Kassar*, the *Rambi* being a distinct and third species. The *Mias Pappan* is the *Simia Wurmbii* of Mr. Owen, having callosities on the sides of the face: the natives treat with derision the idea of the *Mias Kassar* or *Simia Morio* being the female of the *Mias Pappan* or *Simia Wurmbii*, and I consider the fact can be established so clearly that I will not trouble you with their statements: both Malays and Dyaks are positive that the female of the *Mias Pappan* has cheek-callosities, the same as the male; and if on inquiry it prove to be so, the existence of three distinct species in Borneo will be established. The existence of the *Mias Rambi* is vouched by a few natives only, but they were men of intelligence and well acquainted with the animals in the wild state. They represent the *Mias Rambi* to be as tall as the *Pappan*, or even taller, but not so stout, with longer hair, a smaller face, and no callosities either on the male or female, and they always insisted that it *was not* the female of the *Pappan*.

"The *Mias Kassar* or *Simia Morio* is the same colour as the *Mias*

Pappan, but altogether smaller, and devoid of callosities either on the male or female adults.

"By the native statements, therefore, we find three distinct species, viz. the *Mias Pappan* or *Simia Wurmbii*, the *Mias Kassar* or *Simia Morio*, and the *Mias Rambi*, which is either the *Simia Abelii* or a fourth species. The existence of the Sumatran Orang in Borneo is by no means impossible, and I have already compared so many of the native statements that I place more confidence in them than I did formerly, more especially as their account is in a great measure borne out by the skulls in my possession. I had an opportunity of seeing the *Mias Pappan* and the *Mias Kassar* in their native woods, and killing one of the former and several of the latter species. The distribution of these animals is worthy of notice, as they are found both at Pontiana and Sambas in considerable numbers, and at Sadung on the north-west coast, but are unknown in the intermediate country which includes the rivers of Sarawak and Samarahan. I confess myself at a loss to account for their absence on the Sarawak and Samarahan rivers, which abound with fruit, and have forests similar and contiguous to the Sadung Linga and other rivers. The distance from Samarahan to Sadung does not exceed twenty-five miles, and though pretty abundant on the latter, they are unknown on the former river. From Sadung, proceeding to the northward and eastward, they are found for about 100 miles, but beyond that distance do not inhabit the forests. The *Mias Pappan* and *Mias Kassar* inhabit the same woods, but I never met them on the same day; both species, according to the natives, are equally common, but from my own experience the *Mias Kassar* is the most plentiful. The *Mias Rambi* is represented as unfrequent and rarely to be met with. The *Pappan* is justly named *Satyrus* from the ugly face and disgusting callosities. The adult male I killed was seated lazily on a tree, and when approached only took the trouble to interpose the trunk between us, peeping at me and dodging as I dodged. I hit him on the wrist and he was afterwards despatched. I send you his proportions, enormous relative to his height, and until I came to actual measurement my impression was that he was nearly six feet in stature. The following is an extract from my journal relating to him, noted down directly after he was killed.

"'Great was our triumph as we gazed on the huge animal dead at our feet, and proud were we of having shot the first Orang we had seen, and shot him in his native woods, in a Borneo forest, hitherto untrodden by European feet. The animal was adult, having four incisors, two canines and ten molars in each jaw, but by his general appearance he was not old. We were struck by the length of his arms, the enormous neck, and the expanse of face, which altogether gave the impression of great height, whereas it was only great power. The hair was long, reddish and thin; the face remarkably broad and fleshy, and on each side, in the place of a man's whiskers, were the callosities or rather fleshy protuberances, which I was so desirous to see, and which were nearly two inches in thickness. The ears were small and well-shaped, the nose quite flat, mouth prominent, lips thick, teeth large and discoloured, eyes small and roundish, face and hands black, the latter being very powerful.

" ' The following are the dimensions :—

	Ft.	In.
Height from head to heel	4	1
Length of foot	1	0
Ditto hand	0	10½
Length of arm from shoulder-blade to finger end	3	5¾
Shoulder-blade to elbow	1	6
Elbow to wrist	1	1½
Hip to heel	1	9
Head to *Os coccygis*	2	5½
Across the shoulders	1	5½
Circumference of neck	2	4
Ditto below the ribs	3	3¼
Ditto under the arms	3	0
From forehead to chin	0	9¾
Across the face, below the eyes, including callosities	1	1
From ear to ear across the top of head	0	9½
From ear to ear behind the head	0	9¾

" ' The natives asserted the animal to be a small one, but I am sceptical of their ever attaining the growth of a tall man, though I bear in mind that full-grown animals will probably differ as much in height as man.'

" Some days after this, and about thirty miles distant, I was fortunate enough to kill two adult females (one with her young), and a male nearly adult, all the *Mias Kassar*. The young male was not measured, owing to my having waded up to my neck in pursuit of him, and thereby destroyed my paper and lost my measure; but he certainly did not exceed three feet, whilst the two females were about 3ft. 1in. and 3ft. 2in. in height. The male was just cutting his two posterior molars: the colour of all resembled that of the *Mias Pappan*, but the difference between the two animals was apparent even to our seamen. The *Kassar* has no callosities either on the male or female, whereas the young *Pappans* despatched by the Martin Luther (one of them *not a year old*, with two first molars) show them prominently. The great difference between the *Kassar* and the *Pappan* in size would prove at once the distinction of the two species, the *Kassar* being a small slight animal, by no means formidable in his appearance, with hands and feet *proportioned* to the body, and they do not approach the gigantic extremities of the *Pappan* either in size or power; and, in short, a moderately powerful man would readily overpower one, when he would not stand the shadow of a chance with the *Pappan*. Besides these decisive differences, may be mentioned the appearance of the face, which in the *Mias Kassar* is more prominent in the lower part, and the eyes exteriorly larger, in proportion to the size of the animal, than in the *Pappan*. The colour of the skin in the adult *Pappans* is black, whilst the *Kassar*, in his face and hands, has the dirty colour common to the young of both species. If further evidence was wanted, the skulls will fully prove the distinction of species, for the skulls of two adult animals compared will show a difference *in size alone* which must preclude all supposition of their being one species. Mr. Owen's remarks are, however, so conclusive, that I need not dwell on this point; and with a suite of skulls, male and female, from the adult to the infant, of the *Mias Kassar*, which I shall have the pleasure to forward, there can remain, I should think, little further room for discussion. I may mention, however, that two young animals I had in my possession alive, one a *Kassar*, the other a *Pappan*, fully bore out these remarks by their proportionate size. The *Pappan*, with two molars, showed the callosities distinctly, and was as tall and far stouter than the *Kassar* with three molars, whilst the *Kassar* had no vestige of the callosities. Their mode of progression likewise was different, as the *Kassar* doubled his fists and dragged his hind quarters after him, whilst the *Pappan* supported himself on the open hands sideways placed on the ground, and moved one leg before the other in the erect sitting attitude; but this was only observed in the two young ones, and cannot be considered as certainly applicable to all.

" On the habits of the Orangs, as far as I have been able to observe them, I may remark, that they are as dull and as slothful as can well be conceived, and on no occasion when pursuing them did they move so fast as to preclude my keeping pace with them easily through a moderately clear forest; and even when obstructions below (such as wading up to the neck) allowed them to get away some distance, they were sure to stop and allow us to come up. I never observed the slightest attempt at defence, and the wood, which sometimes rattled about our ears, was broken by their weight, and not thrown, as some persons represent. If pushed to extremity, however, the *Pappan* could not be otherwise than formidable; and one unfortunate man, who with a party was trying to catch a large one alive, lost two of his fingers, besides being severely bitten on the face, whilst the animal finally beat off his pursuers and escaped. When they wish to catch an adult they cut down a circle of trees round the one on which he is seated, and then fell that also, and close before he can recover himself, and endeavour to bind him.

" In a small work entitled 'The Menageries,' published in 1838, there is a good account of the Bornean Orang, with a brief extract from Mr. Owen's valuable paper on the *Simia Morio*; but, after dwelling on the lazy and apathetic disposition of the animal, it states in the same page that they can make their way amid the branches of the trees with *surprising agility*, whereas they are the slowest and least active of all the monkey tribe, and their motions are surprisingly awkward and uncouth. The natives on the north-west coast entertain no dread, and always represent the Orangs as harmless and inoffensive animals; and from what I saw, they would never attack a man unless brought to the ground. The rude *hut* which they are stated to build in the trees would be more properly called a seat or nest, for it has no roof or cover of any sort. The facility with which they form this seat is curious, and I had an opportunity of seeing a wounded female weave the branches together, and seat herself within a minute; she afterwards received our fire without moving, and expired in her lofty abode, whence it cost us much trouble to dislodge her. I have seen some individuals with nails on the posterior thumbs, but generally speaking they are devoid of them: of the five animals sent home, two have the nails and three are devoid of them; one has the nail well-formed, and in the other it is merely rudimentary. The length of my letter precludes my dwelling on many particulars, which, as I have not seen the recent publications on the subject, might be mere repetitions, and I will only mention, as briefly as I can, the skulls of these animals in my possession. From my late sad experience I am induced to this, that some brief record may be preserved from shipwreck. These skulls may be divided into three distinct sorts. The first presents two ridges, one rising from each frontal bone, which joining on the top of the head, form an elevated crest, which runs backward to the cerebral portion of the skull.

"The second variety is the *Simia Morio*, and nothing need be added to Mr. Owen's account, save that it presents no ridge whatever beyond the frontal part of the head. No. 9 in the collection is the skull of an adult male: No. 2 the male, nearly adult, killed by myself: Nos. 11 and 3 adult females, killed by myself: No. 12 a young male, with three molars, killed by myself: No. 21 a young male, died aboard, with three molars: No. 19, young male, died aboard, with two molars. There are many other skulls of the *Simia Morio* which exactly coincide with this suite, and this suite so remarkably coincides through the different stages of age, one with another, that no doubt can exist of the *Simia Morio* being a distinct species. The different character of the skull, its small size and small teeth, put the matter beyond doubt, and completely establish Mr. Owen's acute and triumphant argument, drawn from a single specimen.

"The third distinction of the skulls is, that the ridges rising from the frontal bones do not meet, but converge towards the top of the head, and again diverge towards the posterior portion of the skull. These ridges are less elevated than in the first-mentioned skulls, but the size of the adult skulls is equal, and both present specimens of aged animals. For a long time I was inclined to think the skulls with the double ridge were the females of the animals with the single and more prominent ridge, but No. 1 (already described as killed by myself) will show that the double ridge belongs to an adult, and not young male animal, and that it belongs to the *Simia Wurmbii* with the huge callosities. The distinction therefore cannot be a distinction of sex, unless we suppose the skulls with the greater development of the single ridge to belong to the female, which is improbable in the highest degree. The skulls with the double and less elevated ridges belong, as proved by No. 1, to the *Simia Wurmbii*; and I am of opinion the single and higher ridge must be referred to another and distinct species, unless we can account for this difference on the score of age. This, I conceive, will be found impossible, as Nos. 7 and 20 are specimens similar to No. 1, with the double and less elevated ridges *decidedly old*, and Nos. 4 and 5 are specimens of the single high ridge, likewise *decidedly old*.

"These three characters in the skulls coincide with the native statements of there being three distinct species in Borneo, and this third Borneon species *may* probably be found to be the *Simia Abelii* or Sumatran Orang. This probability is strengthened by the adult female on her way home: her colour is dark brown, with black face and hands; and in colour of hair, *contour*, and expression, she differs from the male Orangs, with the callosities, to a degree that makes me doubt her being the female of the same species. I offer you these remarks for fear of accident; but should the specimens, living and dead, arrive in safety, they will give a fresh impetus to the inquiry, and on my next return to Borneo, I shall, in all probability, be able to set the question at rest, whether there be *two* or *three* species in that country. Believe me, my dear Sir, with best wishes, to remain, "Yours very truly,

"J. Brooke."

Mr. Charlesworth exhibited to the Meeting a collection of skins of Mammalia and Birds, which he had obtained on the table-land of Mexico, and which he begged to present to the Society. Among the Mammals were adult specimens of the *Bassaris astuta*, Licht., of which animal a young individual had been procured by Messrs. Thompson and Charlesworth at Real del Monte, and forwarded, under the care of the Society's Corresponding Member, Lieut. Smith, as a present to the Menagerie.

The Bassaris, Mr. Charlesworth observed, is known in Mexico by the name 'Cacomistle'; it is abundant in the city itself, and indeed Mr. Charlesworth believes it is not to be met with at a distance from the abodes of man. Its habits are nocturnal, and it selects for its dwelling outhouses or uninhabited buildings, whence it sallies forth at night and commits great ravages in hen-roosts and pigeon-houses, and on this account every attempt is made by the Mexicans to exterminate it. The number of young which the Bassaris produces does not exceed three or four at a birth.

A skin of the *Ascomys Mexicanus*, Licht., or 'Tusa,' as it is called by the natives, was also exhibited by Mr. Charlesworth; and he drew attention to a curious fact in the economy of this Rodent, viz. that the cheek-pouches with which it is provided, and which open externally, are used for the purpose of conveying the soil from its subterranean retreats to the surface of the ground, where the mould is deposited in heaps, similar in appearance to those formed by the common Mole.

The skulls of these two animals were on the table; and Mr. Waterhouse observed, that that of *Bassaris astuta* presented all the characters of the skulls of the *Paradoxuri*, whilst the skull of *Ascomys Mexicanus* did not appear to him to offer any characters by which it might be distinguished (excepting as a *species*) from the crania of different species of *Geomys* which he had examined; and as the same remarks would apply to the dentition, he thought it would be desirable to expunge one of these genera from our catalogues.

The following paper, entitled "Descriptions of several new species of *Chitones*, brought by H. Cuming, Esq., from the Philippine Islands," by G. B. Sowerby, Esq., jun., was next read.

CHITON SPINIGER. *Ch. Spiniger*, Mag. Nat. Hist. 1840, p. 287; Con. Illus., f. 68. *Ch. testâ depressâ, ovato-elongatâ, omninò granulatâ; valvis reclinantibus, terminalibus rotundatis; margine lato, spinis sub-arcuatis numerosis instructo.*

Long. $2\frac{1}{10}$; lat. $1\frac{1}{2}$ poll.

The description is here repeated, for the purpose of noticing two remarkable varieties brought by Mr. Cuming from the Philippines.

In the first variety the spines are comparatively short, and being coated in patches by calcareous matter, give to the margin an appearance of being banded with black and white. The valves are more rounded, and in some instances more coarsely granulated than in the specimens originally described. Found under stones at low water in Cagayan, province of Misamis, island Mindinão.

In the second variety the valves are more elevated. Found under stones at low water, in the island Siquijor.

The larger variety tends to connect the species with the variable *Ch. piceus*, from which it differs in the narrowness of the valves, the spinose margin, and the purplish flesh tint of the inside, which are the same in all the varieties.

CHITON ALATUS. *Ch. testâ elongatâ, subdepressâ, griseo-virescente, fusco-virescente maculatâ; valvis anticè coarctatis, primâ et ultimâ asperis; areis dorsalibus rotundatis, granoso-striatis; margine squamoso-granulato.*

Hab. ad insulam Siquijor et Zebu.

More depressed, having the marginal granulations coarser and the lateral areas more expanded than *Ch. limaciformis*.

Found under stones at low water.

CHITON TRUNCATUS. *Ch. testâ ovali, minutissimè asperâ, roseâ aut pallidè fulvâ, griseo-virescente maculatâ, sulcis subdistantibus leviter undatâ; areis lateralibus elevatis, expansis; valvâ posticâ conicâ, anticè subcomplanatâ, posticè truncatâ; margine lævi.*

Long. 1·50; lat. ·80.

Hab. ad insulam Siquijor, Philippinarum.

Differing from *Ch. crenulatus*, *Grayi*, &c., chiefly in the conical shape and sudden termination of the last valve. The species is subject to great variations, both in the colour and in the strength of the undulating lines. Found under stones at low water.

Var. *testâ sublævi.*

Hab. ad insulam Samar (Catbalonga).

CHITON INCISUS. *Ch. testâ elongatâ, griseâ, fusco-maculatâ; valvis angustis, subdisjunctis, elongatis, longitudinaliter undato-striatis, primâ sexfariam costatâ, medianis utrinque unicostatis; areis centralibus latis, ultimâ subconicâ, utrinque trifariam costatâ; fissurâ triangulari posticè incisâ; margine lato, fasciculis minutissimis numerosis instructo, posticè inciso.*

Long. 2·60; lat. 1 poll.

Hab. ad insulam Zebu (Daleguete).

It is to be regretted that no specimens of this very remarkable species should have been preserved with the soft parts; it being probable that the fissure in the last valve and in the posterior part of the margin is accompanied by some anatomical peculiarity in the animal sufficient to establish its claim to generic distinction.

Found under stones at low water.

Chiton coarctatus. *Ch. testâ elongatâ, posticè coarctatâ, subtunicatâ; valvis reniformibus, subdisjunctis, carinatis, asperis; carinâ dorsali lævi; margine lævi.*

Long. 1; lat. ·50 poll.

Hab. ad insulam Bohol, Philippinarum.

From the peculiar shape of the valves, and the comparative smallness of the portion which remains uncovered, the observer would be led to look for the small tufts of hair found in the margins of some similarly-shaped species. All the specimens, however, have the margins perfectly smooth.

Found under stones at low water.

July 27, 1841.

In consequence of there not being a sufficient number of Members present to constitute a quorum, no Meeting took place.

August 10, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from the Earl of Derby was read. This letter is dated August 7, 1841, and announces the arrival of a pair of the African Musk Deer (*Moschus aquaticus*, Ogilby); one of them (a female) is alive, and in good health, in his Lordship's menagerie. Having two skeletons of this animal, his Lordship has directed one of them to be forwarded as a present to the Society.

A letter from Dr. Cox, dated Naples, March 28, 1841, was read; it refers to some engravings of a deformed fœtus which this gentleman had sent for exhibition at one of the Society's scientific meetings.

A letter from the Society's corresponding member Dr. Poey was read. In this letter, which is dated Havannah, June 26, 1841, Dr. Poey informs the Society that he has forwarded for the Menagerie a living Raccoon, and he moreover makes some observations upon its habits.

A letter from Edward Blyth, Esq., was next read. This letter is addressed to the Curator, and is written by Mr. Blyth on his passage to India; the writer relates some facts respecting various Mammals which have been communicated to him by his fellow-travellers. Lieut. Beagin, upon being shown some drawings of species of Gibbons, at once, in a figure of the *Hylobates leucogenys*, Ogilby, recognised an animal which he had met with, and examined, in the Malabar jungles. "Lieut. Beagin," observes Mr. Blyth, "has frequently seen this species in the Malabar ghauts, generally in groups of eight or ten, among which were brown individuals." "They appear to be unknown on the Coromandel side, but extend eastward to the Neilgherries; inhabiting upland jungles, chiefly at about 2000 feet above the sea-level."

"The same gentleman is well acquainted with the *Semnopithecus Johnii*, which I observe is incidentally noticed in Harkness's work on the Aborigines of the Neilgherry hills, p. 61. This species is common enough in the depths of the forest, but never approaches the houses like the *Entellus*."

Mr. Blyth is also informed by Lieut. Beagin of the existence of a true Ibex, upon the Neilgherries, with long and knotty horns, curved backwards, and having a considerable beard, in which characters it differs from the Himalayan Ibex. "It keeps to the loftiest and most inaccessible crags, like the other Ibices. He has seen it repeatedly, in troops of a dozen or more individuals, and often endeavoured to obtain a specimen, but without success."

"The *Kemas hylocrias*, Ogilby, or 'Jungle Sheep,' (identified from one of my drawings,) is very generally, it appears, found in the hilly jungles of Peninsular India, keeping to the thick cover, and always met with solitarily, or in pairs. It is a very timid and shy animal, and when frightened utters a bleat like that of the domestic Sheep. Both sexes possess horns, those of the female being smaller; and indeed this sex is rudely figured in one of General Hardwicke's drawings in the British Museum, as the 'Warry-a-too' of the Chatagon Hills; besides which, this is probably the species indicated as the wild Sheep of Tenasserim of Capt. Low."

"I shall now call your attention to some animals of North Africa, very good descriptions of many of which, obligingly furnished to me by Mr. Crowther (of the Queen's 63rd regiment), I have easily recognised as referring to known species; but there are several which are certainly new to naturalists, and among them two very fine Bovine animals, which the Society would do well to write about to their correspondents in that quarter. As Mr. Crowther described to me the Bubalis and the White Oryx, which are often designated 'wild cattle,' it must not be supposed that those animals are alluded to, as indeed is clear enough from the somewhat elaborate descriptions, and from the roughly-drawn sketches of both animals, *from memory*, which I enclose to assist those descriptions. These sketches will, at any rate, give some idea of the sort of animal, and go far to prove their distinctness from any which we are acquainted with.

"The 'Sherif al Wady' (or *River-chief*) stands six feet and upwards at its elevated withers. General form Bisontine; the carcass somewhat narrow, with flakes or rolls of fat on the sides of the neck; the limbs fine-boned and rather long, being terminated by comparatively small neat hoofs; the succentorial rather long; tail short, with its tuft of frizzled hair not reaching to the houghs. Head, it would seem, much like that of ordinary cattle, with small pointed ears, generally borne pendent, and naked of hair internally and towards the tip, which are delicate pinkish flesh-colour; eyes small and dark; the horns thick, cylindrical, smooth till towards their base, where they are a little rugose, and directed almost vertically upwards from the sides of the forehead; their colour dark, and length about a foot and a half. The character of the coat approaches that of Highland cattle in Britain, but is smoother toward the under parts, with curly hair on the forehead; some pendent hair (as shown in the drawing) from the site of the dew-lap (which latter is wanting), of the dark colour of the body, and a long but scanty white tuft hanging from the prepuce, as in Fallow Deer. General colour blackish brown, with a white belly; the centre of the hump pale ash-colour, or even whitish, with radiating black hair surrounding this, four or five inches long. The cow is smaller and of a redder colour. The individual described was brought with two others, another male and a female, from the central region of Mount Atlas, and was presented by the Emperor of Morocco, in the year 1834, to the late Sir Peter Schousboe, who gave it to Mr. Crowther, in whose possession it lived for four months at Tangiers, when it was shot. It became tolerably tame, and its voice was a booming low, though, when irritated, it would roar in a different tone. The flesh proved to be rather coarse-grained, but that stripped from the sides of the dorsal apophyses, or hump, was excellent, and had the flavour of tongue. The skin was attempted to be preserved, but was destroyed by the rats. It was considered to be rather a rare animal. Should the above indications of it be confirmed, as I have no doubt they will, I propose that the species be denominated *Bos Atlantinus*. It is not improbably the *Empolunga* of Purchas.

"The other wild Bovine species is much commoner, and has also much of the Bison in its general contour. Size that of Devon cattle, and colour red, with a flowing blackish nuchal mane; (hence this animal is probably the *Wadan* of Capt. Lyon, if not also the *Pacasse, Empacasse*, or *Pegasus* of different authors). Its horns are very long and spreading in both sexes, but more so in the female, wherein they are also more slender; they are cylindrical, a little rugose towards the base, and directed out and up; head not much unlike that of common cattle, with no curly hair on the forehead; the ears of moderate size, and broad; and tail, with its tuft, reaching below the hock; the hoofs are very black, and the secondary, or succentorial, short. There is little difference between the male and female in general aspect, but the calf is born of a whitish colour. The voice of this species much resembles that of common cattle, but is considerably more powerful. Its beef is excellent. They are occasionally seen solitarily, but more commonly in large herds, sometimes consisting of several hundreds; at the rutting season in particular, which is about July, they are very fierce, and apt to attack without provocation; they feed in the night, and by day pass much of their time standing knee and belly deep in water, like our tame cattle in summer; their coat has a wavy surface. This species is found about Rabat, and near Salee, on the Barbary coast. I have heard before of such an animal, and it appears to be tolerably common.

"Upon questioning Mr. Crowther respecting the Bear of Mount Atlas, which has been suspected to be the *Syriacus*, he knew it well, and it proves to be a very different animal. An adult female was inferior in size to the American Black Bear, but more robustly formed, the face much shorter and broader, though the muzzle was pointed, and both its toes and claws were remarkably short (for a Bear), the latter being also particularly stout. Hair black, or rather of a brownish black, and shaggy, about four or five inches long; but, on the under parts, of an orange rufous colour: the muzzle black. This individual was killed at the foot of the Tetuan mountains, about twenty-five miles from that of the Atlas. It is considered a rare species in that part, and feeds on roots, acorns, and fruits. Does not climb with facility; and is stated to be very different-looking from any other Bear. The skin, like that of the 'Sherif al Wady,' was attempted to be preserved, but unfortunately met with the same fate."

Dr. Lhotsky then read his paper "On Animal Tuition and Animal Hygiene."

In the first part of this paper the author makes some observations on the food of animals, and especially with reference to the quality and quantity given to animals in menageries. He next proceeds with remarks upon their abode, dens, cages, &c., the importance of cleanliness, and upon their tuition.

August 24, 1841.

R. C. Griffith, Esq., in the Chair.

Mr. Westwood read his paper entitled "Descriptions of some Coleopterous Insects from Tropical Africa belonging to the Section *Heteromera*."

The insects comprised in this paper are of extreme rarity, and are the giants of the family *Tenebrionidæ*, constituting the genus *Chiroscelis* and other allied groups; some of them, however, appear to lead to *Lagria* in their metallic colouring, &c.

CHIROSCELIS, Lamarck.

Sp. 1. Chiroscelis bifenestra, *Lam.*, Ann. du Muséum, iii. p. 260.

Sp. 2. Chiroscelis digitata, *Fabricius* (Tenebrio d., Syst. El. i. p. 145). Considered by the author as most probably distinct from the preceding, both in size and locality.

Sp. 3. Chiroscelis bifenestrella, *W.* *Nigra, nitida, capite minus rugoso, mandibulis minus dentatis, maculis duabus ventralibus ♀ minutis rotundatis, margine antico pronoti haud puncto notato, tibiis quatuor posticis ferè rectis; intermediis ad apicem magis dilatatis.*

Long. corp. vix lin. 14.
Hab. in Guinea. Mus. Westw. Commun. D. Raddon.

Sp. 4. Chiroscelis Passaloides, *W.* *Nigra, nitida, vertice trituberculato, tibiis latissimis planis, anticis serratis, posticis intus versus apicem dente armatis.*

Long. corp. lin. $19\frac{1}{2}$–$20\frac{3}{4}$.
Hab. in Guinea. Mus. Westw. Commun. D. Raddon.

PRIOSCELIS, Hope, Col. Man. iii. p. 128.

Divis. 1. *Clypeus antice haud emarginatus, margine antico in medio 1-tuberculato. Maxillarum lobus internus apice corneo bifido. Prothorax suboctogonus. Elytra ad humeros acute angulata.*

Sp. 1. Prioscelis Fabricii, *Hope, l.c.*
Long. corp. lin. 20.
Hab. Sierra Leone. Mus. Hope.

Divis. 2. *Clypeus antice emarginatus, margine antico haud tuberculato. Maxillarum lobus internus apice corneo integro. Prothorax subquadratus magis transversus. Elytra humeris rotundatis.* (Iphius, Dej. Cat.)

Sp. 2. Prioscelis serrata, *Fabricius* (Tenebrio s.).

Sp. 3. Prioscelis Raddoni, *W. P. antennis brevibus articulo ultimo quadrato; tibiis anticis curvatis, apice dilatatis; posticis intus serrulatis extus ad apicem subitò dilatatis, prothorace transverso-quadrato, punctis duobus minutis distantibus versus marginem posticum.*
Long. corp. lin. 14.
Hab. in Guinea. Mus. Westw. Commun. D. Raddon.

Sp. 4. Prioscelis crassicornis, *W. P. atra glabra, antennis longioribus crassioribus femoribus omnibus ante apicem internè bidentatis, tibiis compressis.*
Long. corp. lin. 13.
Hab. in Guinea. Mus. Westw. Commun. D. Raddon.

PYCNOCERUS, Hope, MSS.

(PACHYLOCERUS, Hope, Col. Man. iii. p. 186.)

Sp. 1. P. Westermanni, *Hope, l. c.* (An Ten. sulcatus, *Fabricius*?)

Sp. 2. P. costatus, *Silbermann* (Odontopus c., Rev. Ent. Col., No. 4.).

ODONTOPUS, Silberm.

Sp. 1. O. cupreus, *Fabricius* (Tenebrio cu.). O. violaceus, *Silb. var.*?

Sp. 2. O. tristis, *W. O. chalybeo-ater, capite et prothorace opacis, tenuissime punctatis, hujus marginibus lateralibus crenulatis, elytris subviridibus magis nitidis valdè et irregulariter punctatis, sutura lineisque tribus tenuibus longitudinalibus lævibus, femoribus simplicibus, tibiis anticis apicem versus intus dente instructis, tibiis posticis curvatis, intus sinuatis.*
Long. corp. lin. 12½.
Hab. Senegallia? Mus. Westw.

Sp. 3. O cyaneus, *Fabricius* (Tenebrio cy.).

Sp. 4.? O. speciosus, *Dejean* (Pezodontus sp.).

METALLONOTUS, Gray.

Sp. 1. M. denticollis, *Gray*, in Griff. An. K., Ins. Pl. LXXX. f. 4.

PRÆUGENA, Laporte, Hist. n. An. Art.

Sp. 1. Pr. rubripes, *Laporte*.

Sp. 2. Pr. carbonaria, *Klug*, in Erman's Reise.

Sp. 3. Pr. marginata, *Fabricius* (Helops m.).

Various observations were added by the author relative to the synonymy and generic position of the species above described, and of other tropical African species described by Fabricius, Silbermann, Laporte, &c., and long generic and specific characters were given of the majority, accompanied by numerous illustrations of the generic and structural details.

A skeleton of the African Musk Deer (*Moschus aquaticus*, Ogilby), presented by the Earl of Derby, was exhibited. The skeleton is that of a male animal, and its skull exhibits two well-developed canines in the upper jaw, as in other species of the genus.

September 14, 1841.

Prof. Owen, Vice-President, in the Chair.

A letter was read from William Ogilby, Esq., H.B.M. Consulate, Charleston, announcing a present from that gentleman of seven living Water-Tortoises for the Society's Menagerie.

A letter from R. Hill, Esq. was next read. In this letter, which is dated Spanish Town, Jamaica, July 28, 1841, Mr. Hill relates some interesting facts respecting the nests of the birds of Jamaica.

"Naturalists have remarked," observes Mr. Hill, "that in tropical countries there are a greater number of birds that build close nests than in the temperate climate of Europe. In the West Indian islands, with the exception of the Pigeon tribes and the Humming-birds, the nests are almost uniformly circular coverings of dried grass, varied by intermingled cotton, moss, and feathers, with an opening from below, or an entrance at the side. The Banana-bird weaves a hammock of fibres, sometimes of horse-hair, deep and purse-like, and loosely netted; the *Muscicapa olivacea* a hanging cot of withered leaves, straw, moss, fibrous threads, and spiders' webs, fitted together, and the Mocking-bird builds in the midst of a mass of wicker-work a neat nest of straw, lined with hair. The Woodpecker and the Parrots take to hollow trees, but I hardly know an arboreal bird beside that constructs any nest that is not wholly covered or domed over. Very many insects that are exposed to the air during their metamorphoses weave coverings of silk and cotton, in which they lie shrouded, at once impenetrable to moisture, and uninfluenced by the disturbances of the atmosphere. It would seem that the object, whatever it be, is the same in both. It is not for warmth that the insects spin these webs, for they form their coverings of silk and cotton in the hottest period of the year; and I find, that whilst all our birds that build open nests breed early, those that construct the domed and spherical ones, nestle in the season between the spring and autumnal rains, when the air is saturated with electricity, and is in a state of constant change.

"The destructive influence exercised by the active electricity of the atmosphere on the eggs of birds, accords with that organic gradation by which the higher embryonic animals commence vegetative life with an organization similar to that of the lower. The successive stages of development presented by the egg during incubation exhibit the heart and great vessels constructed like those of the Batrachian reptile, with reference to a bronchial circulation. In the descending scale of organization, in animals, where the respiration is low and the irritability high, the electric stimulus is rapidly fatal. Fish and Crustacea perish in numbers under the influence of a thunder-storm (Dr. Marshal Hall on Irritability, Cyclop. Anat. and Phys.), and the half-matured embryo in the egg is destroyed by the disturbances which prevail during the activity of the summer lightning.

"Electricity being entirely confined to the surface of bodies, and the quantities they are capable of receiving not following the proportion of their bulk, but depending principally upon the extent of surface over which it is spread, the exterior of bodies may be positively or negatively electric, while the interior is in a state of perfect neutrality. Under isolation the quiescent state of the electricity occasions no sensible change in their properties. The power of retaining the electric fluid depending upon the shape, and the sphere and the spheroid retaining it readily, while it escapes from a point, or is received by a point with facility, the enveloping the eggs of birds in dried and non-conducting materials spread entirely and widely round is a means of steadily maintaining a uniform distribution of the electricity, and with it of preserving that state of quiescence by which no sensible changes are communicated to the embryo within. Thus at a time when the air is excessively disturbed by explosions of lightning and by the shocks of thunder-storms, the business of incubation is carried on in a space completely isolated, and the egg suffers no change of property by the varied electric action that is prevailing in the free atmosphere around."

Some notes on the Wild Antelope of Khaurism (*Antilope Saiga*, Pall.), by Capt. James Abbott, communicated by K. E. Abbott, Esq., Corr. Memb., were read. The author, after giving a description of the animal, adds, "It lives in large flocks in the steppe between the river Oxus and the Caspian. When pursued it bounds like the Antelope, but being much smaller and less vigorous, is run down by the coarse Persian Greyhound of the Turcoman and Kuzzauk. The Turkish name is Kaigh and Soghoke."

Mr. Gould exhibited a specimen of the *Apteryx Australis*, in which the beak was shorter, and also more dilated at the base, than in other specimens which he had examined.

Mr. Yarrell read his description of the trachea of a male Spur-winged Goose, *Anser Gambensis* and *Chenalopex Gambensis* of authors.

"A male specimen of this native of Northern and Western Africa died lately in the gardens of the Zoological Society, after living in confinement in the aviary nearly twelve years. Advantage was taken of this opportunity to examine the organ of voice, which is generally found to possess some remarkable variety in form throughout the species of the extensive family of *Anatidæ*, and this expectation was realized. The windpipe of the Spur-winged Goose, which is, I believe, undescribed, measures about sixteen inches in length; the tube flattened throughout, except at the bottom, where it is nearly cylindrical. The bone at the bottom of the trachea, from which the bronchial tubes have their origin, is again flattened, and has on the left side a bony protuberance, forming a hollow labyrinth, about five-eighths of an inch wide, seven-eighths of an inch high, and threeeighths of an inch thick from front to back. This bony enlargement is perforated with various apertures on each surface, which in a natural state are covered by a delicate semi-transparent membrane."

Col. Hamilton Smith exhibited some drawings of Mammals from the Himalaya Mountains.

Mr. Yarrell exhibited the second fasciculus, and the first and second parts of the letter-press, of Sir William Jardine's 'Scottish Salmonidæ.'

Mr. Waterhouse called the attention of the Members to some imperfect skins of various species of Monkeys from Fernando Po, presented to the Society by George Knapp, Esq. The Curator observed, that he had selected these specimens from a large number of skins, sent from the locality mentioned, and that on a former occasion he had had an opportunity of examining a similar series, from which the specimens were selected which were described in the Proceedings for May 1838, p. 57, under the names *Colobus Pennantii*, *Colobus Satanas*, *Cercopithecus Martini*, and *Cercopithecus erythrotis*. In the present collection is a skin of the *Cercopithecus erythrotis*, in which the face is nearly perfect, and exhibits a transverse red mark, crossing the nose; this mark is not due to the colour of the skin, but to short, bright, rust-coloured hairs. The upper lip is covered with blackish hairs, and a band composed of long blackish hairs runs backwards, from the upper lip, across the cheeks, which in other parts are covered with whitish hairs. The length of the skin is two feet, and the tail measures two feet five inches.

Of the *Colobus Pennantii* there were many specimens in the collection, all of which presented the characters pointed out in the description in the Proceedings.

The skin of the *Cercopithecus Martini*, on the table, Mr. Waterhouse observed, also agreed essentially with specimens formerly exhibited, excepting in being of a larger size, the head and body measuring nearly twenty-six inches, and the tail thirty-one inches in length. The tail is of an uniform black colour, excepting near and at the base, where the hairs are obscurely annulated with gray: the hairs on the under parts of the body are of a grayish soot-colour, obscurely annulated with whitish, and the upper surface of the head, as well as the occipital portion, the shoulders, and fore-limbs, are black: on the fore-part of the head the hairs are distinctly annulated with yellowish white.

September 28, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

A letter from the Society's Corresponding Member, J. B. Harvey, Esq., dated South Australia, March 25, 1841, was read. This letter refers to some specimens which Mr. Harvey had forwarded on a former occasion as a present to the Society, and moreover states that he had, at the time of writing the letter, shipped another collection, part of which is also intended for the Society.

A letter from W. V. Guise, Esq., was next read. In this letter, which is dated Sept. 25, 1841, Mr. Guise calls the attention of the Members to the fact that a young Hoopoe (*Upupa Epops*, Auct.) was killed on the eighth of September, at Frampton-on-Severn, by the gamekeeper of Henry Clifford, Esq. of Frampton Court.

Mr. Lovell Reeve then submitted to the Meeting a *Tabula Methodica* of the plan he intended to adopt in his forthcoming CONCHOLOGIA SYSTEMATICA, for the arrangement of the Lepades and Conchiferous Mollusca. He stated, that in reviewing the history of Conchology, which may be dated from the time of Adanson and Linnæus, it was evident that few of these remarkable animals were then known; and although the classification proposed by the latter has been abandoned, from the fact of its having been based almost entirely upon the outward characters of the shells alone, without reference to the anatomy or habits of their animal inhabitants; it may be remembered as a most laudable attempt on the part of that great father of natural history, to introduce into his theory of nature a scientific arrangement of certain shells then before him, which he knew to be the production of certain once living animals. This fallacious method, therefore, was his alternative; he must have been well aware that he could no more arrive at the true history of the Mollusca by their shells alone, than at the natural history of Birds by their feathers alone; but, in the absence of the soft and living parts, he succeeded in establishing an arrangement, by noting such marks and symbols on the shell as could be supposed by analogy to indicate corresponding characters and developments in the organization of its animal. Since the time of Linnæus our intercourse with foreign lands and the general progress of civilization have given increased facilities of obtaining the animals in their native condition; thus, their anatomy and habits have become the popular subject of investigation, raising the study of Conchology to a level with the rest of the natural sciences. From the commencement of the present century various naturalists have assisted in reorganizing the arrangement and division of the Lepades and Mollusca; Bruguière, Lamarck, Cuvier, De Blainville, Deshayes and Gray have successively devoted themselves to the subject. In illustration of the progress of Conchology, Mr. Reeve exhibited to the Society a series of written tables, showing the systems of classification and nomenclature pursued by these several authors. He observed, that the simple method of Lamarck was that usually adopted, but the last that had been introduced was that of Mr. Gray published in the British Museum Synopsis. The chief object of this author appeared to be to extend the application of the nomenclature, in which he enumerates more than three times the number of genera mentioned by Lamarck. He could not fail to appreciate many useful alterations in Mr. Gray's system of classification, and thought it was entitled to considerable merit on account of the attention with which he had studied the animals; he could not however but express his fears that many of Mr. Gray's changes were founded too much upon conjecture; it was also much to be regretted that the whole matter had not been presented to the notice of scientific men in a fair and satisfactory form. After a careful examination of these authors, and with the view of embodying much new and important matter from various scattered memoirs and monographs, Mr. Reeve proposes the foregoing system of arrangement, considering it only a matter of surprise, that whilst many eminent conchologists are indefatigable in describing new species, a revision in the general distribution of these animals has been so long neglected. The Lepades and Mollusca are to be considered as separate and distinct sub-kingdoms. The Lepades are divided into two orders, according to the established method, the sessile and pedunculated; and the Mollusca into five classes, upon the modifications of the organ of locomotion. The first class is divided, in imitation of Lamarck, according to the number and position of the adductor muscles, as indicated by the cicatrices or points of attachment on the internal surface of the shell. The second class includes but few species, and is distributed at once into families; the animals of this and the former class are all conchiferous, having a bivalve shell; the valves are connected by a ligament in the first class, but not in the second; their general organization too is essentially different. The third class, which comprehends by far the greater part of the Mollusca, is divided into seven orders, according to the varieties of the structure and position of the branchiæ, the system of respiration being the most important feature of distinction in the organization of these animals: this plan of subdividing them was proposed by Cuvier, and has been for the most part followed by subsequent naturalists. The animals of this class are not all conchiferous; some are naked, or entirely destitute of shell, and do not therefore come under the present notice. The fourth class contains but few genera; they include a singular kind of mollusk, having a small glass-like shell, found swimming in myriads on the surface of the ocean by means of a small wing-like natatory fin. The fifth and last class, which contains the Nautili, are divided into two orders, according to the plan of Lamarck. The following Table exhibits the primary distribution of these animals, with their subdivision into families; added to which is the entire classification in detail:—

Tabular Distribution of the Lepades and Conchiferous Mollusca.

Subregna.	*Classes.*	*Orders.*	*Families.*
LEPADES		Sessiles	Balanidæ.
		Pedunculatæ	Anatiferidæ.
MOLLUSCA CONCHIFERA.	Tropiopoda	Bimusculosa	Tubicola, Pholadaria. Solenacea, Myaria. Mactracea, Lithophaga. Nymphacea, Conchacea. Cardiacea, Arcacea. Trigonacea, Naiades. Chamacea.
		Unimusculosa	Tridacnacea, Mytilacea. Aviculacea, Pectinacea. Ostracea.
	Brachiopoda		Tendinosa, Adhærentia.
	Gasteropoda	Cirrhobranchiata	Dentalia.
		Cyclobranchiata	Phyllidiana.
		Cervicobranchiata	Fissuracea, Capulacea. Macrostomata, Tubispiracea.
		Pleurobranchiata	Bullacea, Semiphyllidiana. Aplysiana.
		Nucleobranchiata	Carinariana.
		Pulmobranchiata	Limacinea, Colimacea. Cyclostomacea, Auriculacea. Lymnæana.
		Pectinibranchiata	Melaniana, Peristomata. Neritacea, Ianthinea. Plicacea, Turbinacea. Parasitica, Canalifera. Alata, Purpurifera. Columellata, Convoluta.
	Pteropoda		Thecosomata.
	Cephalopoda	Polythalamia	Foraminifera, Siphonoidea.
		Monothalamia	Argonautidæ.

Classification in detail.

LEPADES.

Order 1. SESSILES.

Tubicinella. Conia.
Coronula. Balanus.
Elmineus. Clitea.
Catophragmus. Creusia.
Octomeris. Pyrgoma.

Order 2. PEDUNCULATÆ.

Lithotrya. Pollicipes.
Pentelasmis. Cinaras.
Scalpellum. Otion.

MOLLUSCA CONCHIFERA.

Class 1. TROPIOPODA.

Order 1. BIMUSCULOSA.

Family 1. *Tubicola.*

Aspergillum. Clavagella.
Fistulana. Teredo.
Gastrochæna.

Family 2. *Pholadaria.*

Xylophaga. Pholas.

Family 3. *Solenacea.*

Solen. Solemya.
Solecurtus. Solenella.
Panopæa. Glauconome.
Glycimeris. Pholadomya.

Family 4. *Myaria.*

Mya. Pandora.
Anatina. Anatinella.
Thracia. Myochama.
Corbula. Cleidothærus.

Family 5. *Mactracea.*

Lutraria. Gnathodon.
Mactra. Crassatella.

Mesodesma. Amphidesma.
Ungulina. Cumingia.

Family 6. *Lithophaga.*

Saxicava. Petricola.

Family 7. *Nymphacea.*

Sanguinolaria. Corbis.
Psammobia. Lucina.
Galeomma. Donax.
Tellina. Capsa.

Family 8. *Conchacea.*

Cyclas. Astarte.
Cyrena. Venus.
Galathæa. Cytherea.
Cyprina. Pullastra.

Family 9. *Cardiacea.*

Cardium. Cardita.
Isocardia. Cypricardia.

Family 10. *Arcacea.*

Cucullæa. Pectunculus.
Arca. Nucula.

Family 11. *Trigonacea.*

Trigonia.

Family 12. *Naiades.*

Unio. Iridina.
Hyria. Mycetopus.
Anodon.

Family 13. *Chamacea.*

Etheria. Chama.

Order 2. UNIMUSCULOSA.

Family 1. *Tridacnacea.*

Tridacna. Hippopus.

Family 2. *Mytilacea.*

Lithodomus. Mytilus.
Modiola. Pinna.

Family 3. *Aviculacea.*

Crenatula. Vulsella.
Perna. Avicula.
Malleus.

Family 4. *Pectinacea.*

Pedum. Plicatula.
Lima. Spondylus.
Pecten.

Family 5. *Ostracea.*

Ostræa. Placunanomia.
Placuna. Anomia.

Class 2. BRACHIOPODA.

Family 1. *Tendinosa.*

Lingula. Terebratula.

Family 2. *Adhærentia.*

Thecidium. Orbicula.
Crania.

Class 3. GASTEROPODA.

Order 1. CIRRHOBRANCHIATA.

Dentalium.

Order 2. CYCLOBRANCHIATA.

Chiton. Patella.
Chitonellus.

Order 3. CERVICOBRANCHIATA.

Family 1. *Fissuracea.*

Lottia. Emarginula.
Siphonaria. Fissurella.
Parmophorus.

Family 2. *Capulacea.*

Crepidula. Hipponyx.
Calyptræa. Pileopsis.

Family 3. *Macrostomata.*

Velutina. Stomatia.
Sigaretus. Haliotis.

Family 4. *Tubispiracea.*

Siliquaria. Vermetus.

Order 4. PLEUROBRANCHIATA.

Family 1. *Bullacea.*

Bulla.

Family 2. *Semiphyllidiana.*

Pleurobranchus. Umbrella.

Family 3. *Aplysiana.*

Aplysia. Dolabella.

Order 5. NUCLEOBRANCHIATA

Carinaria.

Order 6. PULMOBRANCHIATA.

Family 1. *Limacinea.*

Parmacella.
Limax.
Testacellus.
Vitrina.

Family 2. *Colimacea.*

Helix.
Carocolla.
Anostoma.
Pupa.
Clausilia.
Bulimus.
Partula.
Achatina.
Succinea.

Family 3. *Cyclostomacea.*

Pupina.
Truncatella.
Cyclostoma.
Helicina.

Family 4. *Auriculacea.*

Auricula.
Scarabus.
Chilina.

Family 5. *Lymnæana.*

Planorbis.
Lymnæa.
Ancylus.

Order 7. PECTINIBRANCHIATA.

Family 1. *Melaniana.*

Melania.
Melanopsis.

Family 2. *Peristomata.*

Valvata.
Paludina.
Ampullaria.

Family 3. *Neritacea.*

Navicella.
Neritina.
Nerita.
Neritopsis.
Natica.

Family 4. *Ianthinea.*

Ianthina.

Family 5. *Plicacea.*

Tornatella.
Pyramidella.

Family 6. *Turbinacea.*

Rissoa.
Eulima.
Scalaria.
Delphinula.
Solarium.
Phorus.
Rotella.
Trochus.
Turbo.
Margarita.
Littorina.
Phasianella.
Turritella.

Family 7. *Parasitica.*

Stylifer.

Family 8. *Canalifera.*

Cerithium.
Turbinellus.
Cancellaria.
Fasciolaria.
Fusus.
Pleurotoma.
Pyrula.
Murex.
Ranella.
Triton.

Family 9. *Alata.*

Struthiolaria.
Rostellaria.
Pterocera.
Strombus.

Family 10. *Purpurifera.*

Cassidaria.
Oniscia.
Cassis.
Ricinula.
Columbella.
Purpura.
Monoceros.
Concholepas.
Harpa.
Dolium.
Trichotropis.
Magilus.
Leptoconchus.
Buccinum.
Nassa.
Planaxis.
Eburna.
Ancillaria.
Oliva.
Terebra.

Family 11. *Columellata.*

Volvaria.
Marginella.
Mitra.
Voluta.
Melo.
Cymba.

Family 12. *Convoluta.*

Erato.
Cypræa.
Ovula.
Terebellum.
Conus.

Class 4. PTEROPODA.

Hyalæa.
Cleodora.
Limacina.
Creseis.
Vaginula.
Cuvieria.
Cymbulia.

Class 5. CEPHALOPODA.

Order 1. POLYTHALAMIA.

Family 1. *Foraminifera.*

Orbiculina.
Spiroloculina.
Polystomella.
Textularia.
Nodosaria.

Family 2. *Siphonoidea.*

Spirula.
Nautilus.

Order 2. MONOTHALAMIA.

Argonauta.

Mr. Gould exhibited two skulls of a large species of Kangaroo, from North Australia, which are remarkable for the large size of the nasal cavity, and differ likewise in some other parts of their structure from the more typical species of *Macropus*. Mr. Gould also laid before the Meeting some species of Fishes collected in North Australia.

October 12, 1841.

Professor Owen, Vice-President, in the Chair.

A letter from John Parkinson, Esq., was read. In this letter Mr. Parkinson incloses a communication which had been forwarded to him by Mr. Commissary General Coffin, tending to prove the disposition of the woodcock to return, not only to the same district but to a once-frequented spot. The communication is as follows :—

"In the year 1833 a woodcock with white feathers in the wings was observed in a cover on the manor of Monkleigh, near Torrington, in the county of Devon. The same bird, or one of exactly similar plumage, re-appeared in the same place during the four succeeding seasons, in which period it was so repeatedly shot at by different persons without effect, that it at last acquired among the country-people the name of 'the witch.' In the year 1837 however it was killed by John Piper of Monkleigh, while following the owner of the property which it frequented, the Rev. J. T. Pine Coffin of Portledge, who has now the stuffed specimen in his possession.

"The white feathers are the primary quills and bastard winglets of each wing, the remainder of the plumage being of the ordinary hue. These feathers are all of a pure white, and seem to be of a closer and stronger texture than usual, but no other peculiarity is observable. It is however worthy of notice, that the cover which formed its constant haunt, when not disturbed, is a piece of wood not exceeding fifty acres in extent; thus proving the disposition of the woodcock to return, not only to the same district but to the same spot which it has once frequented, and to which it is probably first directed by the parent bird, or by other companions older than itself."

"Barnstaple, 17th July, 1841."

A letter from Sir Robert Heron, Bart., was next read. It states that two Rheas in Sir Robert Heron's menagerie had laid thirteen eggs; but as they showed no inclination to set upon them, eight of them were placed under four turkeys. "When the young Rheas were hatched," observes Sir Robert Heron, "the turkeys appeared to think them monsters, and in every instance attacked them; but upon their being placed under the turkeys the ensuing night, they took proper care of them." But one, however, of the young Rheas survived, and this was allowed to range loose with the turkey. It employed its time in catching insects, which is remarkable, since the adult Rhea does not feed upon insects.

The eggs of the Rhea were hatched in five weeks, whilst the Emu sits nine weeks, and Sir Robert Heron supposes the difference of time required to hatch the eggs of these two species may perhaps arise from the difference in the thickness of the shell of their eggs, the shell of the Rhea being thinner than that of the Emu.

Mr. Gould exhibited four new species of Kangaroos from his collection, and pointed out their chief distinguishing characters. These four species Mr. Gould proposed to name *Osphranter Antilopinus*, *Osphranter* (?) *Isabellinus*, *Halmaturus agilis*, and *Lagorchestes conspicillatus*. The first of these Kangaroos is of large size, and remarkable for the great expanse of the nasal cavity, and consequent dilatation of the bones which inclose that cavity. The bony palate is destitute of the large posterior openings found in the skulls of the typical *Halmaturi*. The incisors are comparatively small; the foremost incisor on each side is rather broader than the second, and the posterior incisor is about equal in width to the other two taken together. On the outer surface of the first and second incisors may be perceived faint traces of longitudinal grooves, and the hindermost of these teeth has a distinct vertical fold situated rather in front of the middle of the tooth. The adult skull presents false molars $\frac{1-1}{1-1}$; true molars, $\frac{4-4}{4-4}$; and the skull of an aged individual has the false molars $\frac{1\cdot 0}{0\cdot 0}$; true molars, $\frac{3\cdot 3}{3\cdot 3}$.

The muffle is broad and naked; the muzzle is broad and rather short; the ears are moderate and rounded at the apex. The fore-limbs are comparatively long and stout, and the toes and claws are very strong. The hind-limbs are short and muscular; the middle toe of the hind-foot is very large, whilst the lateral toes are but little developed; the two small inner toes (which are united in one common integument as in other Kangaroos) terminate in a line with the small outer toe, or very nearly so. The under surface of the feet is very rough, being covered with small horny tubercles.

These characters, especially the great expansion of the muzzle and the comparatively small development of the lateral toes of the hind-feet, and increase in size of the central toe, Mr. Gould is of opinion should be regarded as generic, or subgeneric, rather than specific; he therefore proposed for the animal the new sectional title of *Osphranter*. The specific name *Antilopinus* was suggested by the peculiar texture of the fur, which resembles that of an Antelope. The principal characters are as follows:—

OSPHRANTER ANTILOPINUS. *Osphr. rhinario lato, nudo; rostro lato, amplificato, cavis nasalibus amplis; caudâ elongatâ, validâ, pilis brevibus adpressis indutâ; tarsis posticis mediocribus, digito intermedio permagno, digitis lateralibus parvulis, et inter se eâdem longitudine; vellere brevi, aliquanto rigidâ et adpressâ (sicut in Antilope videtur); colore rufo, artubus pallidioribus; corpore subtùs, gulâ, aurium, artuumque partibus internis, nec non caudæ basi infrà, albis vel flavescenti-albis.*

Fœmina *vellere flavescente, apud dorsum fuscescente; capite supernè fusco, albido adsperso, occipite, et auribus externè fuliginoso-fuscis; genis, gulâ, artubus internis corporeque subtùs pallidè flavescentibus; caudæ basi infrà flavescenti-albâ.*

	Masc.		Fœm.	
	unc.	lin.	unc.	lin.
Longitudo ab apice rostri ad apicem caudæ. .	87	0	66	0
———— *caudæ*	33	6	26	0
———— *tarsi digitorumque*	13	0	11	0
———— *antebrachii* et *pedis antici*	15	0	9	0
———— ab apice rostri ad basin auris	7	9	5	9
———— *auris*	4	3	3	6
———— tibiæ	17	6	13	6

Hab. Port Essington, North coast of Australia.

Mr. Gould observed that the *Petrogale robusta* should also be referred to this section.

Of the second species Mr. Gould regretted he was not able to lay before the meeting a perfect specimen; the skin, however, which he exhibited, though imperfect, in his opinion exhibited characters not found in any species hitherto described: they are,

OSPHRANTER(?) ISABELLINUS. *Osphr. vellere aliquantò brevi, molli, splendidè fulvo; gulâ, corpore infrà, artubusque albidis, hic atque illic flavescente levitèr tinctis.*

Longitudo corporis circiter 36 unc.

The general colour of the skin is bright fulvous or sandy red; the fur is rather short and soft to the touch: the hairs are uniform in tint to the base: the throat and under parts of the body are white, faintly tinted with yellowish in parts. The fur on the belly is long and very soft: the white or whitish colouring of the under parts, and the uniform fulvous colouring of the upper parts and sides of the body, do not blend gradually. The colour of the tail is nearly the same as that of the body, but is rather paler, and is nearly uniform. The fore-feet and toes above are covered with brown hairs, but on the sides of the toes the hairs are yellowish. The size of the animal is probably about equal to that of the *Macropus Bennettii.*

This skin was procured at Barrow Island, on the north-west coast of Australia, by Capt. Stokes, of H.M.S. 'Beagle,' and transmitted by him to Mr. Gould, that its characters might be published.

The third species is thus named and characterized.

HALMATURUS AGILIS. *Hal. fulvus, suprà nigro adspersus, infrà sordidè albus; aurium apicibus externis et margine antico nigris; strigâ fuscescente utrinque ab oculis usque ad nares productâ, et infra hanc lineâ albâ; clunibus lineâ albidâ notatis; caudâ longâ pilis brevibus albidis, ad basin suprà flavidis, ad apicem nigrescentibus, indutâ.*

	unc.	lin.
Longitudo ab apice rostri ad apicem caudæ . .	63	0
———— *caudæ*	30	0
———— *tarsi digitorumque*	9	3
———— *antebrachii* et *pedis antici*	9	6
———— ab apice rostri ad basin auris	5	6
———— *auris*	2	9

The above are the principal characters of a male specimen procured at Port Essington: its fur is rather short, adpressed, and harsh to the touch: the general colour is sandy yellow, but the upper parts of the head and body are freely pencilled with blackish, the hairs being of this colour at the point. The chin, throat, and chest are nearly pure white, and the hairs on these parts are uniform to the base: on the belly the hairs are sandy yellow next the skin, but whitish at the point. The limbs are of a pale sandy yellow tint externally, and white on the inner side. On the fore-feet the hairs are also of a pale sandy yellow tint, but they are pencilled with blackish. The hind-feet are nearly white, but on the toes many of the hairs assume a rusty hue. The upper surface of the head is rather paler than the body; the lips are whitish, and a whitish mark extends backwards from the lips and terminates beneath the eye: running parallel with, and joining this mark, is another mark, which is of a dusky hue. The ears are of moderate size, somewhat pointed, white within, and of the same colour as the upper surface of the head externally, excepting at the apex, where they are rather broadly margined with black, and a narrow black line runs along the anterior edge. On each side of the rump is an oblique whitish line. The tail is rather sparingly clothed with short adpressed hairs, and these are nearly white, excepting on the upper surface at the base, where they are of the same hue as those on the back, and along the dorsal surface is a yellowish line: on the under surface the hairs of the tail are of a dirty white colour, and at the apex they are black.

The last species belongs to the division of the Kangaroos to which Mr. Gould has applied the name *Lagorchestes*, and is remarkable for the circle of bright rust-coloured hairs which surround the eyes, a character which suggested the specific name given.

LAGORCHESTES CONSPICILLATUS. *Lag. vellere ut in* Lepore timido; *artubus parvis; caudá ferè quoad longitudinem cum corpore coæquale; capite corporeque suprà fuscescentibus et flavescenti-albo nigroque adspersis; corporis partibus inferioribus sordidè albis; lateribus ferrugineo-flavescentibus; caudá pilis brevibus sordidè albis parcè indutá; tarsis sordidè albis; auribus intùs pilis flavescenti-albis; oculis pilis ferrugineis circumdatis; vellere corporis superioris ad radicem nigro.*

	unc.	lin.
Longitudo ab apice rostri ad apicem caudæ ..	32	6
———— *caudæ*	13	6
———— *tarsi digitorumque*	5	3
———— *antebrachii* et *pedis antici*	3	0
———— ab apice rostri ad basin auris	3	3
———— *auris*	1	3

This little animal was procured at Barrow Island, on the north-west coast of Australia; in size as well as in the colouring and texture of the fur it very nearly resembles the Common Hare (*Lepus timidus*, Auct.). From *Lagorchestes leporoïdes* it may be distinguished by the shortness of its ears and the want of a black patch at the base of the fore-leg. As in *L. leporoïdes*, it has the eyes encircled with reddish hairs; but these are of a more brilliant rusty-red colour than in that animal.

The fur is very long, dense, and rather soft to the touch; on the back it is of a black colour next the skin, yellowish white towards the apex, shaded into deeper yellow still nearer to the point, and black at the point. On the hinder part of the back the portion of each hair, which is yellow on the back, is replaced by white, and there is an oblique white mark on each side of the rump. The fur on the side of the body is deep grey next the skin, brownish yellow in the middle, and this is followed by black, then whitish, and at the point black. On the under part of the body the fur is ash-coloured next the skin, and white externally, excepting on the sides of the belly, where they are of a rusty yellow hue externally. The hair on the upper surface of the head is black, freely pencilled with yellowish white; a broad space round the eye is covered with bright rusty-red hairs, and this hue, though less bright, is extended backwards beneath the ear. The lips and chin are dirty white; the throat is white. The ears are very small and somewhat pointed; internally they are clothed with whitish hairs, and externally with dirty white hairs on the apical portion, but towards the base there is an admixture of black. The fore- and hind-legs and feet are pale, the hairs being dirty white at the point and brown next the skin. The tail is slender, and being but sparingly clothed with short dirty white bristly hairs, exhibits scales; on the under surface it is more densely clothed, and the hairs are longer and of a dirty yellowish hue.

This new species was transmitted to Mr. Gould for description by Capt. Wickham, of H.M.S. 'Beagle.'

October 26, 1841.

William Yarrell, Esq., Vice-President, in the Chair.

The following communication, entitled, " Description of the Stomach of the *Colobus Ursinus*, Ogilby," by R. Owen, Esq., was read.

" The body of the Ursine Colobus, which there can be little doubt is the Full-bottom Monkey of Pennant (*Colobus polycomos*, Illig.), lately exhibited in the Society's menagerie, having been transmitted to me for examination by Mr. Waterhouse, with a view more particularly to the determination of the form of the stomach, I have much pleasure in communicating to the Society the result of this examination.

" It may render the interest in the dissection of this Monkey more intelligible to some, if I premise, that the genus to which it belongs is one of recent discovery or establishment, the affinities of which to the Doucs (*Semnopithecus*), though strongly illustrated by the general form of the *Colobi*, and more especially by their skull and dental organs, required a knowledge of the anatomy of their digestive system for its full appreciation.

" The *Colobi*, peculiar among all known old world *Simiadæ* by the rudimental development of the thumbs of the fore-hands, were generically separated on that account by Illiger. Cuvier, at the period of publishing the last edition of the ' Règne Animal,' had not enjoyed the opportunity of determining how far the distinctive character, seized upon by the Berlin naturalist, was real and constant. Temminck, however, had assured Cuvier that the *Colobus* of Illiger possessed the skull and dentition of the *Semnopitheci*. Mr. Ogilby has mainly contributed to establish the Illigerian genus and illustrate its extent by the description of several species founded upon skins transmitted to the Zoological Society ; and our excellent establishment has now fulfilled another of its functions, by affording to the anatomist the means of establishing the natural affinities and position of the genus *Colobus*, as it has heretofore done in regard to the *Semnopithecus*.

" The stomach of the *Colobus Ursinus* presents the same complicated saccular structure as in the *Semnopitheci* : if it was somewhat smaller in the present instance, in proportion to the body, this might arise from the immaturity of the individual examined. The sacculation is produced by the same modification of the muscular fibres of the stomach, combined with a great extent of the digestive tunics. A narrow band of longitudinal fibres traverses the lesser curvature of the stomach, and a second band, commencing at the left or blind extremity of the cavity, puckers it up in a succession of sub-globular sacs along the greater end. I deem it unnecessary to pursue the description more minutely in this case, as it would be merely the repetition of that which has already been published in our Transactions in reference to the *Semnopithecus Entellus**. The form and size of the cæcum, and the length and disposition of the intestinal canal in the *Colobus* equally corresponded with those parts of the anatomy of the closely allied genus *Semnopithecus*."

Mr. Waterhouse observed, that the animal dissected by Prof. Owen had been presented to the Society by the Earl of Derby, and had lived for some time in the Menagerie. Soon after its death he had carefully examined it with a view to ascertain whether it possessed cheek-pouches. Of these he found not the slightest trace.

Mr. Lovell Reeve then read his "Description of a new species of *Corbis*, a genus of acephalous mollusks of the family *Nymphacea*."

Corbis Soverbii. *Corb. testá transversá, tumidá, gibbosá, lacteá aut rubellá; radiis roseis obsoletis ab umbonibus ad marginem divergentibus; lamellis transversis elevatis, remotiusculis, utrinque serratis, anticè valdiùs; striis numerosis radiantibus, intra lamellas; margine subcrasso, profundè crenulato; umbonibus longitudinalibus, minutis, oppositè incurvis; lunulá parvá, subcordatá.*

Long. $2\frac{3}{8}$; lat. $3\frac{1}{8}$ poll. Mus. Stainforth, Norris.

Junior, testá depressiusculá, radiis roseis longitudinalibus plus minusve distinctis.

Long. $1\frac{2}{8}$; lat. $1\frac{7}{8}$ poll. Mus. Stainforth.

Hab. ad insulam Negros, Philippinarum.

Found in loose coral sand on the reefs at low water.

"I have much pleasure in dedicating this beautiful species of *Corbis*, figures of which will appear in the third part of my 'Conchologia Systematica' (pl. lviii.), to that industrious author and artist Mr. G. B. Sowerby, jun. Only one recent species of this characteristic genus of *Nymphacea* has been hitherto known; it is therefore gratifying to be able to make so valuable an addition. The *Corbis Soverbii* differs materially from the *Corbis fimbriata*: instead of the closely fimbriated character of the outer surface, the valves are crossed transversely with distinct elevated lamellar ridges, between which there are numerous striæ running in a longitudinal direction. It is also characterized by being strongly tinged with pink, particularly in an early stage of growth, when the valves are vividly painted with deep-coloured rays passing from the umbones to the margin: as the shell increases in age it increases in convexity, the lamellæ become thickened, and the rays obsolete. This interesting species more nearly resembles the *Corbis lamellosa* of Lamarck, known only in a fossil state; it differs, however, in having the valves much more gibbous or ventricose, and in the lamellæ being strongly serrated on the anterior side. Some little time since I was fortunate enough to obtain, at a public auction at Rotterdam, four specimens of the *C. Soverbii*, two in the young and two in the adult state. The sale consisted of a valuable collection of shells, formed with considerable taste by the late Dutch governor, General Ryder, stationed at the Moluccas. It included many of extreme rarity and beauty; amongst others, I had the honour of bringing to this country a beautiful new species of the glassy Nautilus, equal in size to the *Carinaria vitrea* that has been seen in this country, a wax model of which has been exhibited in the British Museum for many years, taken from the original, and I believe unique, specimen in the Museum at the 'Jardin des Plantes,' Paris.

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* Vol. i. p. 65. pl. 8.

"Mr. Cuming has kindly furnished me with the above locality, having met with a few specimens of the *Corbis Soverbii* in his researches amongst the Philippines, at the island of Negros."

The next paper read was from Mr. Stutchbury, and is entitled, "Description of a new Sponge from Barbadoes."

"The Museum of the Bristol Institution having lately become possessed of a very interesting sponge through the liberality of Dr. Cutting, of Barbadoes, to whom we are also indebted for the 'recent' *Pentacrinus*, 'recent' *Pholadomya*, and numerous other valuable donations; and as this tribe has met with the able attention of microscopists, whose researches appear to have excited considerable interest;—I have thought a brief account of the specimen would be acceptable to naturalists."

"The peculiarities of this very beautiful sponge consist in the following distinctive characters; the most remarkable of which is, its being formed entirely of silex, the reticulate structure of the mass being composed of transparent vitreous tubuli, without any admixture of keratose or calcareous matter; the silex forming the mass itself, and not, as in other instances, arranged as spicula in the horny membranes; consequently, it is perfectly rigid and sonorous when struck.

"When viewed by a simple lens it exhibits a frothy glass-like appearance: under a magnifying power of seventy-five linear, the net-like meshes are seen to be composed of beautiful glassy tubes, anastomosing one with the other in every direction, the external surface of the cylinders having a rugged aspect; the newer or last formed portions appear to emanate from centres, and at certain distances from spherical masses, from which straight tubes again arise, thus forming the reticulate structure.

"Amidst the interstices of the sponge are found numerous small bodies loose and unattached (also composed of silex*), characterized by Ehrenberg under the generic appellation of Xanthidium, of which several species in a fossil state are described as occurring in flints and other siliceous minerals; this minute body may be described as a spherical mass of tubuli, arising from a centre, each tubular spine being terminated by an expanded conical aperture, and a strong resemblance is at once observed between these bodies and the mode of extension in the newer portions of the sponge itself; this fact, together with that of the perfect siliceous character of these minute bodies, induces me to come to the conclusion that they are not distinct, free animals, parasites to the sponge, but the *gemmules* of the sponge, in which they are found; and I think their increase, so as to become perfect sponges when ejected from the parent mass, can be readily understood by comparing their present form with the recently formed portions of the sponge. Supposing the *gemmule* (*?*) to have arrived at that state which commences its individual life, its increase would not be by an extension of the tubuli in a straight line; but from the edges of the terminal aperture of each spine other and similar tubuli would or might be sent off, and thus the end of every spine become a fresh centre and anastomosing point, and in this way a very slight addition would give the newly formed mass the reticulate and vesicular character of the parent sponge.

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* In testing the mineral character of the sponge a small portion was examined under the microscope; then placed in a test tube, and upon the addition of dilute hydrochloric acid no effervescence occurred: it was then dried, and again placed in the field of the microscope, when no change appeared to have taken place; upon submitting it to the action of the blowpipe, the only alteration was its losing its glassy aspect by becoming opake, but it was not altered in form.

" Being anxious to identify the peculiar and entire siliceous character of this sponge with its generic appellation, I have adopted the name of *Dactylocalyx*; the principal characters of which may be thus expressed:—

" Sponge fixed, rigid, siliceous; incurrent canals, uniform in size; excurrent canals large, forming deep sinuosities on the outer surface, radiating from the root to the outer circumference.

" For the species the name *Dactylocalyx pumiceus* is proposed."

A collection of Birds from Australia, presented by J. Olive, Esq., was exhibited.

November 9, 1841.

William Horton Lloyd, Esq., in the Chair.

A letter from E. L. Moore, Esq., dated Newfoundland, September 21, 1841, was read. In this letter Mr. Moore returns his thanks to the Society for having elected him a corresponding member, and observes that no exertion on his part shall be wanting to forward its views.

Mr. Gould exhibited and pointed out the characters of a new species of Goose nearly allied to *Nettapus Coromandelianus* (*Anas Coromandeliana*, Auct.), from N. Australia, which he characterized as

NETTAPUS PULCHELLUS. *Nett. collo, dorso, alisque intensè resplendenti-viridibus; lateribus, fasciis latis lineisque alternatìm albis et viridescenti-nigris, conspicuè ornatis; remigibus secondariis cum pogoniis externis albis, undè fascia obliqua alam transcurrens.*

Male: head brownish green, indistinctly barred with light brown, beneath the eye an oval spot of white; neck, back and wings deep glossy green; primaries black; outer webs of the secondaries snow-white; feathers of the chest and back of the neck white, with a number of greenish black circles, one within the other, so numerous that the white is nearly lost; the flanks similarly marked, but in them the bars and circles are broader and more apparent; tail black, glossed with green; abdomen white; under tail-feathers black; irides dark brown; bill dark greenish grey, with a yellowish white nail; under mandible greenish grey, irregularly blotched with a lighter colour; legs and feet blackish brown.

Total length, $12\frac{1}{2}$ inches; bill, $1\frac{1}{8}$; wing, $6\frac{1}{2}$; tail, 3; tarsi, 1.

The female resembles the male, but differs in having the crown, occiput, and a stripe down the back of the neck deep brown; in being destitute of the white spot beneath the eye; in having the chin and upper part of the throat white, mottled with small markings of brown; bill french grey, becoming yellowish at the base; lower mandible bluish grey; tarsi fleshy white on the sides; back and front blackish brown; feet dark brown.

Mr. Waterhouse called the attention of the members to a new species of Rodent from Chile, which had been placed in his hands for description by H. Cuming, Esq. This animal, Mr. Waterhouse stated, evidently belonged to a little family of the *Rodentia* (the *Octodontidæ*), which is peculiar to the southern parts of South America, a family of which six species are characterized, and these constitute the four genera, *Ctenomys*, *Poephagomys*, *Octodon*, and *Abrocoma*.

The present Rodent agrees with the two first of these genera in having the fore-feet strong and furnished with large claws formed for burrowing, and approaches most nearly, as regards its external characters, to the genus *Poephagomys* of F. Cuvier, (which appears to be the *Psammoryctes* of Poeppig,) inasmuch as its ears are of moderate size, whilst those of the species of *Ctenomys* are very small.

The skull presents a very large antorbital opening, enclosed externally by the zygomatic process of the superior maxillary bone, the root of which is thrown out almost horizontally, and is on the same plane as the anterior palatal portion of the cranium: a second, very small opening, for the transmission of the infra-orbital nerve, is pierced through the root of the zygomatic process*; the zygoma is deep and compressed; the portion of the palate situated between the molar teeth is contracted in front, and widest between the posterior molars; and the posterior portion of the palate presents a deep V-formed emargination. The descending ramus of the lower jaw, or that part which lies below and behind the alveolar portion, is thrown out from the outer side of the alveolus of the great inferior incisor, which extends almost to the condyle; its posterior portion is emarginated, and lower and hinder portion is produced in the form of an acute angle, terminating behind the vertical line, dropped from the condyle; the lower boundary of the descending ramus is produced externally and internally in such a manner, as when viewed from beneath, this part presents a horizontal platform of small extent, and which is broadest at about one-sixth of an inch from the angle of the jaw, the platform at this part being produced internally so as to form an obtuse angle. The condyloid portion of the lower jaw has a considerable antero-posterior extent, and the articular surface, which is rather broad, occupies rather more than half of this compressed condyloid process. The coronoid process is in the form of an isosceles triangle, the apex of which is of the same height as the condyle, or very nearly so.

The molar teeth are rootless and four in number on each side of each jaw.

These characters of skull and dentition all indicate the affinities of the animal under consideration with the *Octodontidæ*: the cranium compared with that of the known species of the family presents the modifications observable in the burrowing types, differing from the Octodons and Abrocomas, which live more on the surface of the ground and ascend trees and bushes, in the smaller size of the cranial cavity, and in the greater strength of all the parts, arising from the comparatively large size of the teeth, and more especially of the incisors, which are fitted for cutting roots†. The auditory bullæ are of moderate size, but rather smaller than in *Octodon*; the lower jaw is larger and much stronger than in the two genera mentioned. In these characters the present animal makes so near an approach to *Ctenomys*, that it might with propriety be placed in that genus were it not that in the structure of the teeth there exists a difference fully as great as that which gave rise to the generic distinction of the little groups of which the family *Octodontidæ* is composed. In *Octodon, Poephagomys* and *Ctenomys*, the enamel of the molar teeth enters, in the form of a fold on each side, into the body of the tooth, but the folds from opposite sides do not meet. In the Rodent which forms the subject of these observations, the crown of each molar is divided into two parts by the meeting of the folds of enamel of the outer and inner side, and the surface of these teeth may be compared to a series of cylinders (two to each tooth), which are much compressed in the antero-posterior direction. The three foremost molars in each jaw are equal in size, and the posterior molar is smaller than the rest. In position, the last molar of the upper jaw differs from the others, being as it were twisted, so that the two transverse lobes are placed obliquely.

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* This second small opening is found in the skull of *Octodon*, and appears to be represented in the figure (given by Mr. Bennett) in *Ctenomys*, though not so well expressed by the engraver as by the artist of the drawing from which the engraving was made. In *Abrocoma* there is no corresponding opening.

† The burrowing *Sciuridæ* and *Muridæ*, as compared with the typical examples of their respective groups, present a corresponding modification of the skull; the strength of the cranium is greater, and the cranial cavity

With our present very limited knowledge of the small Rodents of the southern parts of South America, and especially of the western coast, it is impossible to judge of the value of such a modification of the molar teeth as is here pointed out. It is possible that the species of *Octodontidæ* may vary more or less among themselves in the structure of these teeth, in which case the so-called genera, established as the species are discovered, will require a revision, as do very many of the genera of *Rodentia*; in the mean time, however, it is necessary that sectional names should be imposed on such species as will not agree tolerably well with the definitions of the genera published as such. Agreeably to these views, the subgeneric title *Schizodon** is proposed for the present new Rodent. The principal external characters may be thus expressed:—

SCHIZODON FUSCUS. *Schiz. suprà griseo-fuscus, subtùs obscure flavo tinctus: pedibus pilis obscurè fuscis tectis; auribus mediocribus; caudá, fuscá quoad longitudinem caput ferè æquante, pilis brevissimis tectá.*

	unc.	lin.
Longitudo ab apice rostri usque ad caudæ basin	9	0
———— *caudæ*	1	8
———— *tarsi digitorumque*	1	$5\frac{3}{4}$
———— *auris*	0	$5\frac{1}{2}$

In size and colouring the Schizodon greatly resembles the Common Rat (*Mus decumanus*); its fur is rather softer than in that ani-

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smaller. It is difficult to estimate the amount of intelligence in these animals, but, judging from the size of the brain, it would appear that there existed an intimate connexion between the food of the animal and its intelligence; the food in one case leading the animal to habits which cause it to be exposed to numerous dangers which do not occur in the other.

* From *σχίζω, divido*, et *ὀδοὺς, dens.*

mal. Both on the upper and under parts of the body the hairs are of a deep slate-grey colour next the skin; those on the belly are of a dirty yellow colour. On the back, the hairs are most of them brownish, or yellowish brown near the point, and black at the point. The ears are covered both externally and internally with fine short hairs. The hind-feet have five toes; the fore-feet also have five toes, but the inner one is very small and has a very short nail; the other toes have long, compressed and powerful nails. The hairs of the moustaches are of a dusky colour.

The discovery of the Rodent above described is due to Mr. T. Bridges, whose notes relating to it are as follows:—"This species of Rodent is very common on the eastern side of the Andes, where it completely undermines the face of the country, especially in dry places, making it very disagreeable for the rider, as the horses are continually plunging into the burrows. It must lay up a winter store, or otherwise migrate, or remain buried in the snow at least three months during the winter season. The specimen is a female."

November 23, 1841.

John Willimott, Esq., in the Chair.

Mr. Lovell Reeve exhibited a beautiful new species of *Mitra*, a genus of pectinibranchiate mollusks, of the family *Columellata*, which he characterized as follows:—

Mitra Stainforthii. *Mitr. testâ cylindraceo-fusiformi, exalbidâ; apice basique cinereo-cœrulescentibus; spirâ acuminatâ; anfractibus transversìm leviter striatis, longitudinaliter costatis; costis latiusculis, subdistantibus, maculis rufis quadratis vividè pictis; aperturâ angustâ; columellâ triplicatâ; umbilico parvulo; labro externo simplici, fauce ad marginem rubidè maculatâ.*

Long. 2¼; lat. ½, poll. Mus. Stainforth.

Hab. ad insulam Burias, Philippinarum. Cuming.

Found in coarse coral sand, 7 fathoms.

"It is with peculiar gratification that I am allowed to introduce into the nomenclature of the Mollusca, the name of my esteemed friend, the Rev. Mr. Stainforth; a zealous conchologist, and one who, perhaps, stands unrivalled in his beautiful collection of Mitres. The *Mitra Stainforthii* is somewhat allied to the *Mitra sanguisuga* of Lamarck: the whorls are longitudinally ribbed as in that species; but in this, they are wider and more distant from each other; they are also eminently distinguished by a series of square red spots running from the top to the bottom. The magnificent specimen which has furnished the above description is two inches and a quarter in length; a few small specimens have been recently found by Mr. Cuming at the island of Burias, one of the Philippines."

A collection of bird-skins and mammals from Chile was exhibited. The specimens were collected by Thomas Bridges, Esq., in the Andes of Chile, lat. 34°–35°, and were laid before the meeting at the desire of that gentleman. With this collection Mr. Bridges sent the following notes, which were communicated to the Meeting by H. Cuming, Esq.:—

Canis Azaræ, Pr. Max. Found in valleys on the eastern side of the Andes. This species of Fox appears to differ from the large Fox of Chile, known by the name of "Culpeo," in the bluntness of its ears.

Schizodon fuscus, Waterh. Proc. Zool. Soc. for November 9, 1841. Mr. Bridges's notes on the habits of this Rodent will be found in the Proceedings of the preceding meeting.

Mus, ———? This little animal is found about hedges in the province of Colehagua, and is by no means common. There are in Chile at least ten or twelve species of Rats and Mice.

Sturnella loica, Auct. Common in all parts of Chile. Iris brown.

Agelaius Chopi, Vieill. "Tordo" of the natives. Iris dark brown. Common in flocks in all parts of the country.

Chlorospiza xanthogramma, G. R. Gray. Found in valleys near the summit of the Andes on the east and west sides. Iris brown.

Emberiza luctuosa, Gerv. Found in valleys of the Andes. Sings delightfully in summer. Iris dark brown.

Fringilla Gayi, Eyd. and Gerv. Found near the summit of the Andes in valleys amongst bushes. Iris reddish brown.

Muscisaxicola rufivertex, D'Orb. Found on the east and west sides of the Andes near the snow. Iris dark brown.

Agriornis leucurus, Gould. This bird is found in the valleys near the summit of the Andes on the east and west sides. It is called "Mero" by the natives, but differs from the "Zorral Mero" of the warmer parts of the country. Iris brown.

Pteroptochos Tarnii, G. R. Gray. This singular bird is found in the woody parts of the Andes, and is very difficult to shoot; its cry is compared to the neighing of a young colt. Iris dark brown.

Caprimulgus bifasciatus, Gould. This bird is found amongst low bushes on the eastern side of the Andes. It is known to the natives by the names of "Plasta" and "Gallina Ciega," *i. e.* Blind Hen. Iris brown.

Upucerthia dumetoria, Isid. Geoff. and D'Orb. Found amongst low bushes and in sandy places in the elevated valleys of the eastern side of the Andes. Iris brown.

Scytalopus fuscus, Gould. Found in hedges in various parts of Chile, also in the Andes. It is called by the natives "Chircan Negro," as the other species common in Chile is light brown. Iris brown.

Geositta canicularia, G. R. Gray. This little bird is found on the plains near the Andes, and is called by the natives "El Caminante," or Traveller, from its running before the traveller on the dry sandy roads of the country. Iris brown.

Alcedo torquata, Auct. Found near the rivers of Chile. Iris brown. Called by the natives "Martin Pescador."

Picus Magellanicus, Vig. Iris brown. This beautiful species of Woodpecker is found in the forests of "Roble" in the Andes, and may always be discovered by its singular scream or call. It is known to the natives by the names of "Concona" and "Carpintero de la Cordilliera."

Colaptes Chilensis, Vig. Known to the natives by the name of "Pitigue," so called from its call or note. This bird is common in the woods of Acacia Cavenia near the Andes, and is also found in the valleys of the Andes in woody places. Molina says that this bird builds its nest in holes on the ground, which is an error, as I have found the nest in holes of trees like the rest of the genus. The eggs are white. Iris pale green or gray.

Vanellus Cayenensis, Steph. This is the "Queltregue" of the natives, and is one of the most common birds found on the plains near the Andes, also in other parts of the country. Food, worms, locusts, &c. The eggs are excellent eating, and resemble in colour and size those of the Lapwing of England. Iris purple.

Tinochorus D'Orbignyanus, Isid. Geof. St. Hilaire. This is the small Partridge of the Andes, and is called by the natives "Perdix Cordellierana." It comes down to the plains in severe winters. Generally found in pairs in the valleys near the summit of the Andes. The male shows the strongest attachment to his mate, and calls her by a melancholy tone or cry when separated. They are so tame that the natives kill them with stones, and so stupid that a stone may be thrown at them several times before they will rise. Iris brown.

Columba Boliviana, Auct. This little dove is found in small flocks in the valleys of the Andes, and, in the winter, visits the coast. It is known to the natives by the name of "Tortola Cordellierana." This is the smallest of the three species found in Chile. It makes a whistling noise with its wings when it rises from the ground. Iris brown.

Dafila urophasianus, Eyton. Iris brown. Found in valleys on the eastern side of the Andes.

Anas ———— ? Iris brown. Found inhabiting the rapid rivers of the Andes. This bird swims and dives against the rapidity of the mountain torrents in a manner truly astonishing. It seldom or never leaves the rivers of the Andes, and, like the Grebes, seldom makes use of its wings, although when disturbed it flies a short distance. Generally seen in pairs.

Mr. Gould made some observations on this collection, and particularly drew attention to the last species in the list, which Mr. Bridges places in the genus *Anas* with a note of doubt. Mr. Gould observed that this bird was unknown to ornithologists, and presented a most singular combination of characters. In many of its characters it approaches the Ducks (*Anatidæ*), but in others it evinced an affinity to the Mergansers (*Mergus*), especially in its long and stiff tail-feathers, and narrow and pointed beak. It differs, however, from either of the groups mentioned in having, in both sexes, a strong spur on the wing. Mr. Gould proposed for this new bird the name *Merganetta armata*.

Genus MERGANETTA.

Rostrum haud minùs longum quàm caput, rectum ; ferè cylindraceum, ungue apicali distincto, incurvato, at minùs abruptè quàm in genere *Mergus* dicto. Mandibula superior lamelloso-dentata, vel tornio crasso carneo, intùs profundè serrato, instructa ; naribus linearibus ferè centralibus.

Alæ mediocres primariis secundo et tertio longissimis ; humeris calcare valido et acuto armatis.

Cauda, ut in *mergo*, rigida.

Tarsi aliquantò elongati, squamis hexagonis ad latera obtecti, et anticè scutellis. Digiti palmati, medio quàm tarsus paululùm longiore ; halluce libero, altè posito, et paululùm lobato.

MERGANETTA ARMATA. *Mas : vertice nigrescenti-fusco, strigá angustá, albá cincto ; hac, lineá faciali ejusdem colore, conjunctâ ;*

infra hanc lineam strigâ nigrâ angustâ, ab occipite super oculum ductâ vittam nigram facialem efficiente, deindè per mediam gulam excurrente, et super pectus totum diffusâ; capitis lateribus, sic et collo albis, hoc apud nucham strigis nigris longitudinalibus tripliciter ornato, quarum centrali latâ, reliquis angustis.

Fœm.: vertice et dorso saturatè cœrulescenti-cinereis, sic et colli lateribus, his albescente minutè fasciatis; genis infra oculos, gulâ, gutture, et corpore subtùs e rufo castaneis.

Male. Crown of the head blackish brown, surrounded by a narrow stripe of white which unites with another line of white running at right angles down the sides of the face; beneath this a narrow line of black which terminates in a point at the occiput, and running over the eye joins a broader band of the same colour down the sides of the face, is continued down the centre of the throat and spreads over the chest; sides of the head and neck white, interrupted at the back of the neck by three longitudinal stripes of black, the centre one being broad and the lateral ones narrow; feathers of the back and scapularies much lengthened, and conspicuously margined with white, the centres being in some blackish brown, in others greyish brown; wings deep grey, with a beautiful green speculum, bounded above and below with a narrow irregular band of white, produced by the tips of the greater wing-coverts and secondaries being tipped with that colour; primaries brown; rump and upper tail-coverts greyish brown, finely freckled with zigzag lines of white; centre of the abdomen dull light chestnut brown, with a blackish brown mark down the centre of each feather; flanks and under tail-coverts blackish brown; tail brown; irides brown; bill reddish brown; feet brown.

Female. Crown of the head, back and sides of the neck dark slate grey, the sides of the neck regularly barred with minute lines of greyish white; the elongated feathers of the back and scapularies margined with deep grey instead of white as in the male; lower part of the back deep slate grey; upper tail-coverts the same, crossed by numerous minute bars of white; wings grey, the coverts tipped with white; sides of the face below the eye, throat, and all the under surface rich reddish chestnut; tail brown.

Total length $18\frac{1}{2}$ inches; bill $1\frac{5}{8}$; wing 7; spur $\frac{5}{8}$; tail 5; tarsus $1\frac{3}{4}$; middle toe $2\frac{1}{8}$.

The female is rather less in all her admeasurements.

The male from which the description is taken had some of the tail-feathers white, but this would seem to have been produced by wearing and exposure, as they were all old feathers.

Mr. Waterhouse observed, that the Fox contained in Mr. Bridges's Collection he felt little doubt is the *Canis Azaræ*, Pr. Max., but it differed from the specimen figured in the 'Zoology of the Voyage of the Beagle,' in not having the black on the chin and angles of the mouth.

December 14, 1841.

Richard Owen, Esq., Vice-President, in the Chair.

A letter from the Society's corresponding member, J. B. Harvey, Esq., was read.

A letter from Mr. Fraser, dated from the mouth of the river Nùn, W. Africa, August 14, 1840, was next read. In the first part of his letter, Mr. Fraser, the naturalist to the Niger expedition, alludes to a collection of specimens which he had formed during his passage out, and which he had forwarded to England. This collection consists of three mammals, nearly fifty birds, twenty-eight reptiles, upwards of thirty fishes, and about forty boxes, bags, &c. containing chiefly insects and shells. The writer expresses a wish that this collection may not be regarded as a specimen of what may be hereafter expected, since he had purposely abstained, as much as possible, from using his materials for preserving specimens until his arrival at the Niger.

The letter moreover contains some interesting facts relating to the habits and habitats of certain animals. Among the skins of Mammalia, Mr. Fraser observes, he had forwarded a *Galago* which was shot at Cape Coast, close to the town, in a tamarind tree, where he also found its nest, built, or rather laid, in a fork formed by the branches. The nest was composed of loose leaves. The animal resembled the *Loris gracilis*, but its limbs were stouter. The following monkeys, Mr. Fraser states, appear to be found in the neighbourhood of Sierra Leone: *Troglodytes niger*, *Colobus ursinus*, *Cercopithecus fuliginosus*, common, *Cerc. Sabæus*, and *Cynocephalus Papio*. The banks of the beach are everywhere perforated with large round holes, which the natives informed Mr. Fraser were inhabited by an animal which they call the Ground-pig, which is the *Aulacodus Swinderianus* of Temminck. At Bassa, the author of the letter saw some skins of *Cercopithecus Diana*, said to be common in that district; he also saw a skin of an antelope, apparently the *Antilope Ogilbyi*, Waterh. At Cape Coast the *Cercopithecus petaurista* is to be found, and likewise the *Colobus leucomeros*. Skins of the last-mentioned animal as well as of the *Cercopithecus Diana* were extremely plentiful at Accra.

The following paper, by Mr. Lovell Reeve, "On *Lingula*, a genus of Brachiopodous Mollusks," was then read:—

"The *Lingulæ* belong to a group of Bivalve Mollusks differing materially in their system of organization from any other of the great tribe of *Acephala*. They have received the title of 'the *Brachiopoda*,' on account of their being provided with two long spirally twisted arms, and are distinguished by other not less important particulars. The soft parts are differently arranged within the shell from those of other Bivalves; the valves are not united by any ligament, and there is a very distinct change in the arrangement and position of the breathing apparatus. Although Pallas has given a short anatomical description of the *Terebratulæ*, it was not until the appearance of Cuvier's memoir on the anatomy of *Lingula*, that the true characters of these remarkable animals became known; it was then determined that the *Brachiopoda* should be set apart in a separate and distinct class. The anatomy of the *Terebratulæ* and *Orbiculæ* has since been most elaborately set forth by Prof. Owen in the Transactions of this Society, and agrees in all its essential particulars with that of the *Lingulæ* previously described by Cuvier; subject, however, to certain modifications arising from the different situations they inhabit. The *Lingulæ*, which are provided with a long pedicle, commonly live near the surface, and are found at low water, partially buried in the sand for the protection of their fragile shells against the violence of the tides; the *Terebratulæ*, on the contrary, are found in deep water, attached in clusters to fragments of rocks and corallines by a bunch of short fibrous tendons issuing through an orifice in the shell.

"The essential points in which these animals differ from other Bivalve Mollusks are as follow:—*First*, in the position of the soft parts within the shell: in the *Brachiopoda* the dorsal part of the visceral mass is against one valve, and the ventral part against the other; whilst in most of the *Tropiopoda* the back is placed directly against the hinge, and the sides against each valve. *Secondly*, in being provided with a pair of retractile brachia or arms: in the place usually occupied by the branchiæ, are two long spirally twisted arms, generally more or less fringed, and so strongly resembling in some species the branchiæ of the *Tropiopoda*, that they were at one time thought to be the true organs of respiration. These retractile arms are said to be in constant activity for the purpose of producing an inward current of water for the capture of animalculæ, and other alimentary prey. *Thirdly*, in the arrangement and position of the branchiæ: instead of the organs of respiration being distinctly formed in lateral lamellæ upon the body, as in the *Lamellibranchiate Tropiopoda*, they consist of a number of beautiful veins and arteries incorporated within the substance of the two lobes of the mantle. The calcifying organ of the *Brachiopoda* therefore has a double function: in addition to its usual property of secreting the calcareous mucus for the formation of the shell, it is made subservient to the circulation of the aërated water. Prof. Owen observes, 'that in this profuse distribution of vessels over a plain membranaceous surface, we perceive the simplest construction of the *water-breathing* organ, presenting a beautiful analogy with the elementary forms of the *air-breathing* organ in the *pulmoniferous Gasteropoda*.' In consequence of this new arrangement of the respiratory system, the title of the *Brachiopoda* has been changed by De Blainville for that of the *Palliobranchiata*, or mantle-breathing Mollusca. The muscular system in these animals appears to be most complex ; the *Lingulæ* and *Orbiculæ* are provided with three pairs of muscles, and the *Terebratulæ* have four. The large muscles are destined to open and close the shell in the absence of a hinge ligament ; and the small ones assist in sliding one valve over the other for the admission of water.

"Until within the last few years only one species of *Lingula* was known, and previous to the publication of Cuvier's memoir, before alluded to, the shell of this singular animal gave rise to much speculation amongst naturalists. Linnæus, upon the discovery of an odd valve of *Lingula* exhibiting no trace of any hinge ligament, described it as a *Patella*. Both Rumphius and Favanne took it to be the calcareous shield of a *Limax* or land-slug. Chemnitz, upon finding that the shell of *Lingula* was really bivalve, placed it with the *Pinnæ*; and even Dillwyn includes it with the *Mytili*. Bruguière was the first to distinguish it by its present title in the plates of the 'Encyclopédie Méthodique,' in which he has been followed by Cuvier, Lamarck, and all succeeding writers.

"With regard both to the situation that the *Brachiopodous Mollusca* should occupy in the natural system, as well as the rank to which they are entitled in the classification, authors have been much divided. By Dumeril and De Roissy they were associated in a particular class with the *Lepades*, on account of a fancied resemblance in their spirally twisted arms to the cirrous tentacula of those animals ; they differ however in not being articulated, and their relation altogether with the *Lepades* is one of very remote analogy. Cuvier distinguished them as a new and separate class, but still arranged them next in order to the *Lepades*. Lamarck placed them at the end of his '*Conchifères monomyaires*' merely as a family of that order. Prof. Owen and Deshayes both consider that they are entitled to take the rank of an order; the latter author however admits that there is far less affinity between the *Brachiopoda* and the rest of the acephalous mollusks, than there is between the acknowledged divisions of *Bimuscular* and *Unimuscular*. In the arrangement of my 'Systematic Conchology' I propose to adopt the still higher rank that was assigned to them by Cuvier, namely, that of a class, placing them according to Lamarck, at the end of the *Acephala*, upon the presumption that their branchial apparatus presents a modification of structure intermediate between that of the proximate classes, the *Tropiopoda* and the *Gasteropoda*.

"The *Lingulæ* come with great propriety at the commencement of the class, because they have the nearest affinity with the *Tropiopoda*; their body is larger in proportion to that of the rest of the *Brachiopoda*, and although the branchiæ are incorporated within the substance of the mantle, they nevertheless present a certain indication of the lamellar structure. Lamarck placed them at the end of his family of '*Les Brachiopodes*,' because, in having referred the *Craniæ* to his fossil family of '*Les Rudistes*,' he found it necessary to follow up their affinity with the *Orbiculæ*; his arrangement of the genera therefore is the reverse of that I have adopted.

"The *Lingula anatina* was for a long time the only species known; another one, the *Lingula hians*, was described by Swainson in his 'Zoological Illustrations,' and we are indebted to Mr. Cuming for five new ones; two, the *Lingulæ Audebardii* and *semen*, have been already described by Mr. Broderip in the Transactions of this Society, and I have now the pleasure of introducing three which I believe to be entirely new to science.

Lingula ovalis. *Ling. testâ angustâ, elongato-ovali, glabrâ quasi politâ, olivaceo-viridi; apice acuminato; valvis utrinque clausis.*

Hab. —— ?

Long. $1\frac{3}{10}$; lat. $\frac{6}{10}$ poll.

"This shell, which approaches rather in appearance to that of the *Lingula anatina*, may nevertheless be distinguished by its complete oval form; though it is somewhat acuminated at the apex, the umbones are much less prominent, and the valves are more compressed, and more closely united all round.

Lingula tumidula. *Ling. testâ corneâ, tenuissimâ, rubro-olivaceâ, subquadratâ, versus apicem parùm attenuatâ, umbonibus vix prominulis; valvis tumidulis, marginibus irregulariter reflexis.*

Hab. ad oras Novæ Hollandiæ.

Long. $2\frac{1}{10}$; lat. $1\frac{3}{10}$ poll.

Reeve, Conch. Syst. v. i. p. 180. pl. 125. f. 4.

"The shell of the *Lingula tumidula* differs materially, both in size and composition, from that of any of the previously known species; it is considerably larger and thinner, and rather horny than calcareous, and the colour of it is a burnt olive-red. From the swollen appearance of the valves I am inclined to think that the shell is perfectly pliable and elastic during the life of the animal.

Lingula compressa. *Ling. testâ corneâ, tenuissimâ, valdè compressâ, fusco-olivaceâ, subquadrato-ovali, versus apicem attenuatâ, umbonibus depressis, indistinctis; valvis utrinque clausis.*

Hab. ad Palanam, ins. Masbate, Philippinarum.

Long. $1\frac{8}{10}$; lat. $1\frac{1}{10}$ poll.

"This curious species was found by Mr. Cuming in sandy mud at low water at Palanas, Island of Masbate, one of the Philippines. Its shell is of the same thin horny composition as that of the *Lingula tumidula*; in fact I at first took it to be merely a local variety of that species. Upon comparison however I feel assured that it is distinct; it is more attenuated towards the apex, and from the valves being remarkably compressed and closely united all round, I am induced to suppose that the animal must be proportionably smaller. The two specimens from which the above description is drawn do not exhibit the pallial cilia, which Mr. Cuming's usual care would have protected; they may therefore not have been exserted beyond the margin of the valves. He did not succeed in obtaining the pedicle of this species.

"Mr. Cuming exhibits on this occasion specimens of all the known *Lingulæ* from his own collection, and I am not aware that four species out of the seven exist in any other. They belong to a class of mollusks of which few recent varieties are known, and may therefore be highly esteemed for their conchological interest."

The next paper read was from Mr. G. B. Sowerby, jun., and is entitled "Descriptions of nine species of the genus *Pupina*."

Gen. PUPINA, Vignard.

Molluscum terrestre.

Testa subcylindrica, vitrea, nitidissima, anfractibus quinque ad sex, penultimo inflato, ultimo paululùm coarctato; aperturâ circulari, margine crasso, reflexo, ad basin columellæ inciso, vel emarginato.

Operculum corneum, spirale.

The glassy enamel, which gives a brilliant polish to the small, terrestrial shells composing this genus, seems to distinguish them even from those species of *Cyclostoma* which most nearly resemble them, in having a pupiform shape, and a notch at the base of the columella. The question has been asked, "Why not make this marginal notch the criterion of the genus?" The answer is found in the following facts: first, the notch is found in *Cyclostomata*, which have no other character in common with *Pupinæ*; second, that several *Cyclostomaia* have a canal at the lower part of the whorl, which if continued would form a similar notch; third, that our *Pupina lubrica*, which could scarcely be separated from the genus, has but a very slight emargination.

The first species described under this generic name was *P. Keraudrenii*, published by Vignard in the 'Annales des Sciences,' 1829.

Mr. Grateloup subsequently described *P. Nunezii* under the generic name *Moulinsia*, neither of these naturalists being acquainted with the operculum.

All the species here described, with the exception of *P. antiquata* and *P. Keraudrenii*, were recently brought to this country by Mr. Cuming from the Philippines.

* Species spirâ axe retrorso.

PUPINA NUNEZII. *Moulinsia Nunezii*, Grateloup, Ann. Soc. Linn. Bordeaux, 1840. *P. Nunezii*, Sow. jun., Thesaurus Conchyliorum, part 1. f. 8, 9, 10, 11. Published May 1842. *Testa globosa, obliqua; aperturâ magnâ, margine validè expanso, reflexo, complanato, incisurâ triangulari penitùs diviso; labio columellari concavo: anfractu ultimo propè aperturam subcomplanato.*

Long. ·50; lat. ·35 poll.

Hab. ad insulas Samar, Luzon, Catanduanus et Siquijor, Philippinarum.

Var. *a. Fusca margine flavido.* Samar.

Var. *b. Flavida, margine aurantiaco.* Albay, ins. Luzon.

Var. *c. Fulva rufescens.* Ins. Catanduanus.

Var. *d. Alba, propè aperturam purpureo-cincta, margine flavido.* Ins. Leyte.

More globose than any other species, the spire turned backwards, the penultimate whorl elevated, the last whorl flattened in front, the incision of the peritreme deep, the columella grooved, varying in colour from bright orange to cream-white and dark brown; the margin always either orange or yellow. Found on leaves of small plants and low bushes in several of the Philippine Islands.

Pupina pellucida, Sow. jun., Thesaurus Conch. part 1. f. 18, 19, 20. *Testa obliqua, subglobosa, pellucida, spiræ axe valdè retrorso, anfractu penultimo elevato, ultimo complanato margine reflexo, incisurâ diviso; columellâ latâ convexâ.*

Long. ·30; lat. ·20 poll.

Hab. ad insulas Luzon et Zebu, Philippinarum.

Var. *a. Fulva.* Daleguete, ins. Zebu.

Var. *b. Grisea fulvescens, minor.* Bongabon, ins. Luzon.

Smaller, more transparent, and with the spire more bent than the last; the outer lip less expanded, the notch completely dividing the peritreme, and the columella convex. Found on small plants in woods.

* * Spirâ penè rectâ.

Pupina lubrica, Sow. jun., Thesaurus Conch. part 1. f. 12 to 16. *Testa subobliqua, cylindrica; spirâ brevi obtusâ, aperturâ rotundatâ; margine anticè subexpanso, paululùm incrassato, ad basin columellæ vix emarginato; columellâ callosâ.*

Long. ·35; lat. ·25 poll.

Hab. ad insulas Panay, Siquijor, et Luzon, Philippinarum.

Var. *a. Fulva.* Ins. Panay.

Var. *b. Fulva, minor.* Ins. Siquijor.

Var. *c. Alba, translucida.* Ins. Siquijor.

Var. *d. Grisea fulvescens.* Ins. Luzon.

Var. *e. Alba.* Calauang, Laguna, ins. Luzon.

In this species the notch is scarcely perceptible, and there is a rounded callosity behind the columellar lip. The inner lip is thickened on the body whorl. Found in dense woods on small plants.

Pupina vitrea, Sow. jun., Thes. Conch. part 1. f. 6, 7. *T. subelongata, recta, anfractibus subrotundatis, margine expanso, reflexo, complanato, incisurâ diviso.*

Long. ·50; lat. ·25 poll.

Hab. Ins. Mindinao et Luzon, Philippinarum.

Var. *a. Fulva, margine luteo.* Albay, ins. Luzon.

Var. *b. Fulva, margine aurantiaco.* Cagayan, pr. Misamis, ins. Mindinao.

The spire is straight and elevated, gradually tapering towards the obtuse apex; the peritreme is expanded and flattened, the notch deep.

Pupina similis, Sow. jun., Thes. Conch. part 1. f. 4, 5. *Testa fulva, subelongata, recta, anfractibus subrotundatis, margine pallidè fulvo, expanso, reflexo, rotundato, crasso, incisurâ usque ad dorsum diviso.*

Long. ·45; lat. ·26 poll.

Hab. Bolino, provinciam Zambales, ins. Luzon.

Resembling *P. vitrea*, but the margin not flattened, and the notch so deep that it is seen at the back of the shell. Found on leaves of bushes and trunks of trees in the island of Luzon.

Pupina exigua, Sow. jun., Thes. Conch. f. 17. *Testa parva, translucida, alba, cylindrica; anfractu penultimo inflato; margine aperturæ paululùm incrassato, incisurâ diviso.*

Long. ·26; lat. ·16 poll.

Hab. St. Nicholas, ins. Zebu, Philippinarum.

This small, transparent white species has the margin very little thickened, and the notch deep. Found on small plants.

*** Spirâ rectâ, aperturâ bicanaliculatâ.

Pupina humilis, Jaquenot, Sow. jun., Thes. Conch. part 1. f. 2. *Testa ovalis, solida, pallidè lutea, anfractibus subrotundatis, ultimo propè aperturam paululùm complanato; aperturâ rotundatâ, margine crasso, expanso, reflexo; labio interno crasso, posticè plicato; columellâ crassâ, latâ, tortuosâ, reflexâ; incisurâ ad dorsum latâ.*

Long. ·60; lat. ·40 poll.

Hab. —— ? Mus. Cuming.

This being a dead shell has lost the brilliancy of the enamel. The teeth or folds at the posterior part of the inner and outer lips form a very distinct canal. The columella is tortuous and turned backwards, and the notch is seen at the back like the canal of a Buccinum.

Pupina Keraudrenii, Vignard, Sow. jun., Thes. Conch. part 1. f. 2. *Testa parva, cylindrica, griseo-rufescens; spirâ obtusâ rectâ; aperturâ parvâ, margine incisurâ diviso; labio externo levitèr incrassato, posticè subplicato; labio interno plicato.*

Long. ·30; lat. ·15 poll.

Hab. Manilla and Singapore? Mus. Stainforth, Sowerby.

A pupiform species with a posterior canal.

Pupina bicanaliculata, Sow. jun., Thes. Conch. part 1. fig. 1. *Testa parva, ovalis, alba, translucida; anfractibus ventricosis; aperturâ magnâ, margine subexpanso, subincrassato, ad basin columellæ inciso; labio interno posticè plicato.*

Long. ·26; lat. ·16 poll.

Hab. St. Nicholas, ins. Zebu, Philippinarum.

This species differs from *P. Keraudrenii* in shape, being more ventricose, having a tapering spire, and a very strong fold on the inner lip. Found on small plants in the island of Zebu.

The following paper, entitled "Descriptions of four species of the genus *Chiton*, brought by H. Cuming, Esq. from the Philippine Islands," also by Mr. G. B. Sowerby, jun., was then read:—

Chiton pulcherrimus. *Ch. Testâ ovali, angulatâ, ad dorsum elevatâ, pallidè subviridi, fasciis binis rubris distantibus dorsalibus,* *maculis rubris dorsalibus et lateralibus nonnullas intus viridi; areis centralibus longitudinaliter foveolatim sulcatis; areis lateralibus prominentibus, utrinque granulatim tricostatis; areis terminalibus costis moniliformibus numerosis radiatis; margine minutè squamoso, maculis rubris fasciato.*

Long. ·95 ; lat. ·55 poll.

Hab. Gindulman, ins. Bohol, Philippinarum. H. Cuming legit.

The few specimens of this shell which have been brought in fine condition present an appearance of exquisite finish and great beauty, both in sculpture and colouring. They were found in the crevices of rocks at low water.

CHITON LAQUEATUS. *Ch. testâ ovatâ, depressâ, granulatâ, pallidè fulvâ vel viridescente, purpureo et viridi maculatâ; costâ dorsali purpureâ, sublævi; valvâ primâ costis quinque laqueatâ; valvis medianis unicostatis ad latera quadratis; valvâ ultimâ valdè depressâ, margine lato, irregulariter rugoso, rubro, viridi, alboque maculato. Variat testâ angustiore, margine roseâ.*

Long. ·55 ; lat. ·45 poll.

Hab. Calapan, ins. Mindoro, Philippinarum. H. Cuming legit.

Remarkable for the character of the first valve, which is broadly fluted by five radiating ribs. The four or five central valves, in several specimens, are nearly covered by a dark purple colour, the two last patched with green, and the first nearly white, but subject to some variations. Found in coarse sand among small stones at a depth of nine fathoms.

CHITON FLOCCATUS. *Ch. testâ ovali depressâ, anticè angustatâ, pallidè fulvâ; nigro, fusco, viridi, roseoque maculatâ: valvis terminalibus radiatim sulcatis, valvis medianis utrinque unicostatis, areis centralibus longitudinaliter sulcatis; areis lateralibus granulatis, marginibus serratis; valvâ terminali obtusè elevatâ; margine rubro vel fusco, maculis et punctis albis fasciato.*

Long. ·80; lat. ·45 poll.

Hab. Cagayan, Misamis, ins. Mindinao, Philippinarum. H. Cuming legit.

This species is found at Mindinao, under stones at low water, and at Calapan on small stones, at a depth of fifteen fathoms. The margin is sprinkled with white patches resembling flakes of snow, on a reddish brown ground.

CHITON LUZONICUS. *Ch. testâ ovali, angulatâ, stramineâ, viridi longitudinaliter strigatâ: valvarum areis terminalibus et lateralibus radiatim granulatis; areis centralibus acutè longitudinaliter sulcatis, margine sublævi.*

Long. ·35 ; lat. ·20 poll.

Hab. Sorsogon, pr. Albay, ins. Luzon, Philippinarum. H. Cuming legit.

This small and apparently insignificant shell is very sharply ribbed in the central areas, and presents a very nicely sculptured surface when viewed through a magnifying glass. The specimens were taken on dead shells at a depth of fifteen fathoms.

Mr. Waterhouse laid before the Meeting his descriptions of numerous species of Coleopterous insects from the southern parts of South America, which had been placed in his hands for that purpose by H. Cuming, Esq. and C. Darwin, Esq. Those from Mr. Cuming formed part of a collection made by Mr. Thomas Bridges, who expressed a wish that the specimens should be laid before the Zoological Society. Unfortunately, the exact localities of the insects are not mentioned in Mr. Bridges's notes, but there is reason to believe they were collected in the neighbourhood of Petorca. The species described belong to the genera *Nyctelia* and *Listroderes*, or are nearly allied to those two groups.

Section HETEROMERA.

Family NYCTELIIDÆ.

Genus NYCTELIA.

Species from the collection of Thomas Bridges, Esq.

NYCTELIA LÆVIS. *Nyct. atra, nitida; capite anticè punctis sparsis notato; thorace mediocritèr convexo, latiore plusquàm longo, parte anticâ angustiore, ad latera modicè rotundato, margine anteriore, pilis brevibus flavescentibus fimbriato, angulis et anticis et posticis productis et subacutis, dorso punctis parvulis dispersis: elytris lævibus convexis, brevibus, ovatis, apice producto et subacuto; carinâ laterali crenulatâ; segmentis abdominalibus rugis irregularibus longitudinalitèr impressis.*

Long. corp. 11½ lin.; lat. 6¾; lat. thoracis, 4⅔; long. ib. 2¾.

Black and glossy; general form ovate; thorax and elytra convex above, and presenting no distinct sculpturing. Head with scattered punctures in front, smooth behind. Thorax with very fine scattered punctures, and these most numerous on the fore part: parallel with, and at a short distance from the lateral margins of the thorax is an indistinct line on each side, formed by the somewhat abrupt termination of the convex discoidal portion at this part; the space between this line and the outer margin is nearly plane, and presents a few indistinct irregular rugæ, having a tendency to a transverse disposition. The thorax is broader than long, the width to the length bearing very nearly the proportion of 8 to 5; the middle of the thorax and hindermost part are about equal in width, but from the middle to the front the width gradually decreases; in front it is emarginated, and the anterior margin is furnished with a fringe of short, dense, yellowish hairs; the posterior margin presents an undulating line, encroaching on the body of the thorax on each side about midway between the mesial line and the posterior angle, which is produced. The elytra are very convex, and nearly of an ovate form; they are widest in the middle, and the apical portion is produced; the lateral keel (which forms the outer boundary of each elytron, viewing the insect from above) is not very prominent, and is indistinctly crenulated: this ridge does not extend to the apex of the elytron, but terminates about two and a half lines from that point: between the apex and the terminal point of the keel is an oblique ridge : the sutural portion of the elytra is distinctly indented near the scutellum, and less distinctly so at other parts. The mentum is coarsely punctured : the prosternum and mesosternum are coarsely punctured in the middle, and the punctures are confluent : the metasternum has small and somewhat irregular longitudinal rugæ in the middle, and similar rugæ are observable on the first, second, and anterior half of the third abdominal segments. The legs are black, but the tip of the femora and base of the tibiæ are pitchy.

Very many specimens of this species were sent to this country by Mr. Bridges, and as I have reason to believe they will be distributed in most of the public and private entomological collections, I shall regard it as a type for comparison in describing some other species of the same genus.

NYCTELIA LÆVIS, var. RUFIPES. Many specimens of a *Nyctelia* agreeing with the *N. lævis*, but differing in having the legs and antennæ of a pitchy red colour, were contained in Mr. Bridges's collection. Of these red-legged specimens, as well as of those having the legs concolorous with the body, there are males and females ; but the red-legged specimens are generally rather narrower, and often have a slight trace of transverse depressions on the outer side of the elytra ; the difference of form and sculpturing, however, is not constantly combined with the red colouring of the legs and antennæ, and as in some other species of *Nyctelia* and *Epipedonota* I have found a similar difference in the colouring of the legs, &c., I cannot regard that character as specific.

NYCTELIA TRANSVERSO-SULCATA. *Nyct. atra, nitida ; capite anticè sparsìm punctato : elytris vix duplò latioribus quàm longis, anticè potiusquàm posticè angustioribus, angulis productis, subacutis : elytris mediocritèr convexis, brevibus, ovatis, apice producto, sulcis haud ad medium attingentibus, profundis et levitèr undulatis, transversìm insculptis ; segmentis abdominalibus ferè lævibus.*

Long. corp. 9 lin. ; lat. $5\frac{1}{4}$.

This species is smaller than the *N. lævis,* and the thorax and elytra are less convex. The head has a few scattered punctures in front, and numerous very fine punctures on the hinder part, near the eyes ; the remaining portions are smooth. The thorax is impunctate, but little convex above, and has two indistinct foveæ on each side near the posterior angles, and joining the hinder margin. The elytra are ovate and slightly convex ; the apical portion is produced, and has the outer margin slightly reflected : the lateral keel of the elytra is very prominent, and distinctly crenulated : extending inwards from this keel, to about the middle of the elytron, are a series of transverse and slightly irregular grooves, about fourteen in number, on each elytron ; the length of these grooves (the interstices of which are convex) varies so, that they all terminate nearly at the same distance from the suture. On the space between these transverse *sulci* and the suture are two longitudinal striæ, which are somewhat indistinct, and interrupted in parts, excepting on the apical portion of the elytron, where the innermost of the two striæ is well marked, and the suture of the elytra is at this part somewhat elevated. Numerous oblique furrows are observable on the produced apical portion of the elytra. The portion of the elytra which lies below the keel presents no distinct sculpturing. The abdominal segment presents scarcely any trace of longitudinal rugæ. The legs are black, but have a slightly pitchy hue.

Species of *Nyctelia* from the collection formed by C. Darwin, Esq., during the voyage of H.M.S. Beagle.

NYCTELIA PLICATA. *Nyct. ovata, nigra, nitida; capite anteriore crebrè punctato, posteriore ferè lævi; thorace transverso, elytris angustiore; angulis posticis productis, obtusis, suprà ad medium paulò convexo, et crebrè punctato; elytris latis, subovatis, convexis, sulcis profundis transversalibus, a margine externo ferè ad suturam ductis, plagâ suturali profundè indentatâ.*

Long. corp. (♂) 13 lin.; lat. $7\frac{1}{2}$; vel, long. $11\frac{1}{2}$ lin., lat. $6\frac{1}{2}$ lin.
Long. corp. (♀) $12\frac{2}{3}$ lin., lat. $7\frac{1}{2}$ lin.
Hab. Port Desire.

This species is considerably larger than *N. lævis*; the thorax is proportionately broader and shorter, and the produced apical portion of the elytra is dilated and depressed. The head is thickly punctured in front, and there are numerous punctures at the sides above and behind the eyes. The thorax is about twice as broad as long; the broadest part is behind, but till anterior to the middle it scarcely decreases in width; from the middle to the fore-part the transverse diameter is gradually lessened, so that the lateral margins form a gentle curve; the anterior portion is emarginated, and the posterior margin is rather strongly sinuated; the anterior angles are acute, and the posterior angles are rounded. The upper surface of the thorax is convex in the middle, but towards the sides it is slightly concave; it is thickly punctured, and the punctures are many of them confluent; on the disc the punctures are much less numerous. The elytra are about one-fourth broader than the thorax (rather less in the male sex), and about one-fourth longer than broad; they are very convex, indented at the suture, and furnished with a series of nearly transverse indentations, about eighteen or twenty in number, which commence at the lateral keel and terminate about one-eighth of an inch short of the suture; the space between these transverse folds and the suture is apparently smooth; but with a moderately strong lens some very minute tubercles may be observed scattered on this part, as well as on the interspaces of the transverse indentations, which are about equal in width to the grooves: the apical portion of the elytra is considerably produced, and the produced part is broad and somewhat depressed, and has the upper surface rugose. The mentum is coarsely punctured, and the under side of the head is thickly punctured: the prosternum is coarsely punctured in the middle, and has some irregular rugæ at the sides; at the lateral margin is a series of small transverse rugæ: the mesosternum and metasternum have irregular rugæ in the middle, and the two first and half of the third abdominal segments have small irregular longitudinal rugæ; the remaining two abdominal segments are finely punctured.

NYCTELIA SOLIERI. *Nyct. ovata, nigra, nitida; capite anticè punctato, posticè lævi; thorace transverso, elytris angustiore; angulis posticis productis, suprà apud medium paulò convexo, et lævi; elytris anticè apud plagam suturalem levitèr impressis, et sulcis transversis paulo irregularibus a margine laterali ferè ad suturam ductis.*

Long. corp. $11\frac{3}{4}$ lin.; lat. $6\frac{3}{4}$ lin.

Hab. Patagonia.

This species resembles the *N. plicata*, but differs in having the thorax smooth; the elytra are rather narrower, and the apical produced part is shorter and broader; they are scarcely indented at the suture, excepting in a slight degree towards the scutellum; the transverse folds are less regular, often dividing into two branches, and approach more near to the suture. A transverse section of the elytra of *N. plicata* would present a convex upper surface near the suture, but at the part where the grooves commence the line would be straight (though sloping downwards to the lateral keel), or even slightly concave; whilst in *N. Solieri* a similar section would present an even convex curve. Scattered punctures are observable on the fore-part of the head, and a shallow transverse depression is situated between the eyes; the thorax is nearly twice as broad as long, convex in the middle, but slightly concave towards the lateral margins: with a moderately strong lens some minute punctures are visible, rather thinly scattered over the surface. The elytra are ovate, the length to the width bearing about the proportion of 7 to 9.

NYCTELIA DARWINII. *Nyct. brevitèr ovata, convexa, nigra, nitida; capite subpunctato; thorace paulò ad partem anteriorem quàm posticam angustiore, lævi, convexo; elytris subrotundatis, valdè convexis, lævibus, marginibus lateralibus crenulatis.*

Long. corp. $11\frac{2}{3}$ lin.; lat. 8 lin.; vel, long. 11 lin.; lat. $7\frac{1}{4}$ lin.

Hab. Port Desire.

This species is remarkable for its broad and very convex form and deficiency of sculpturing, having the upper surface of the thorax and elytra smooth and glossy. The head is finely punctured: the thorax is twice as broad as long, and convex; a groove runs parallel with and close to the lateral margins, and a similar groove is observable on the anterior margin, though here it is less strongly marked. Elytra rather more than one-third broader than the thorax, and the length and breadth are very nearly equal, if we exclude the produced apical portion, which is broad, depressed, and nearly of a semicircular form. The lateral keel is distinctly crenulated, and separated by an adpressed line. The underside of the thoracic segments are rugose in the middle, and the first and second abdominal segments have irregular longitudinal rugæ; the third segment presents a faint trace of similar rugæ at the base; the other segments are smooth.

The spines at the apex of the posterior tibiæ are longer than usual in the genus.

Nyctelia Darwinii, var.? minor (long. corp. 8⅔; lat. 6⅓); elytris rotundatis apice paulò producto et angustiore.

Hab. Port Desire.

NYCTELIA FITZROYI, Curtis, MSS. *Nyct. subrotunda, convexa, nigra, nitida; capite utrinque punctis paucis adsperso; thorace lævi, convexo, anticè latiore, angulis posticis acutis; elytris rotundatis, ad apicem productis, convexis, lævibus, margine externo crenulato; antennis pedibusque piceo-rubris.*

Long. corp. 10½ lin.; lat. 8 lin.

Hab. Port Desire.

This species was first discovered by Capt. King, and will be hereafter described in detail by Mr. Curtis, whose MS. name I have adopted. Two specimens were found by Mr. Darwin at Port Desire: it approaches very near in size and general characters to *N. Darwinii*, but differs in having red legs and antennæ, in being of a broader form, in having the legs less rough, the lateral keel of the elytra less prominent, and not so distinctly crenulated, and the spurs or spines at the apex of the posterior tibiæ are much smaller. The length of the elytra is rather less than the width, if the produced apical portion be omitted; and if included in the measurement, the length very slightly exceeds the width; they are very convex and smooth, and so is the thorax, which is twice as broad as long, and considerably narrower before than behind. The head is sparingly punctured.

NYCTELIA GRANULATA, Curtis, MSS. *Nyct. atra, nitida, subrotundata; capite transversìm impresso, anticè punctato; thorace subquadrato, ad latera crenulato, suprà convexo, lævi; elytris rotundatis, apice paulò productis, suprà convexis, ad suturam depressis, rugis validis et irregularibus obsitis, his in dorso plerumque longitudinalibus et prope latera obliquè dispositis.*

Long. corp. 8¼ lin.; lat. 6 lin.

Hab. Cape Negro.

This, together with several nearly allied and very remarkable species of *Nyctelia*, occurs in Capt. King's collection, and will be hereafter characterized in detail by Mr. Curtis. The specimen from which the above short description is taken forms part of Mr. Darwin's collection, and was found at Cape Negro. The legs are very rough, being thickly covered with tubercles, and they are shorter than in most of the species of *Nyctelia*. The whole upper surface of the elytra is covered with rugæ, and these are very strongly marked, and though very irregular, they have a general longitudinal direction on the depressed space on the middle of the elytra. This sutural depression, which is about two lines in width, is bounded on each side by a broad and slightly elevated ridge; between this ridge and the outer margin the rugæ have a tendency to form oblique lines. A few fine punctures are observable on the fore-part of the thorax, and on the sides are two grooves placed closely together, and parallel with and near the lateral margin; the narrow ridge between the two grooves, as well as the marginal ridge, is crenulated.

NYCTELIA PUNCTICOLLIS. *Nyct. ovata, atra, nitida; thorace distinctè et crebrè punctato; elytris tuberculis minutis, et ad latera rugis transversis irregulariter impressis, his non forte distinctis.*

Long. corp. 9¾ lin.; lat. 6 lin.

Hab. Bahia Blanca.

This species is rather smaller than the *N. lævis*, and has the thorax and elytra less convex. The head is rather thickly and coarsely punctured, excepting on the vertex. The thorax is thickly and coarsely punctured, and the punctures are for the most part confluent; a distinctly impressed line runs parallel with and close to the margins; the lateral margins are obscurely crenulated. The elytra are of a broad ovate form, and the apical produced portion is convex and rounded at the apex. The lateral keel of the elytra is distinctly crenulated, and transverse shallow furrows run inwards from this margin, leaving interspaces rather broader than the furrows, which, for the most part, are about a line, or rather less, in length. On the interspaces between the furrows, and the whole upper surface of the elytra, are very minute scattered tubercles; these are very indistinct towards the suture, near which are one or two very faint striæ. The labrum is coarsely punctured, and the underside of the head is also punctured. The under surface of the prothorax is covered with small tubercles, from each of which springs a hair; between the legs, the under side of the prothorax and mesothorax is coarsely punctured. The first, second and third of the abdominal segments are covered with distinct longitudinal rugæ, and the apical segments are punctured beneath.

Several specimens of this species were collected at Bahia Blanca by Mr. Darwin, who says they are 'tolerably abundant on sand-hillocks.' A *Nyctelia* in Mr. Darwin's collection, from Rio Negro, resembles the present species, excepting that it has pitchy red legs and antennæ.

NYCTELIA SUBSULCATA. *Nyct. ovata, atra; thorace transverso distinctè punctato; elytris rugis tuberculisque minutissimis; sulcis transversis aliquanto irregularibus ad latera insculptis.*

Long. thoracis elytrorumque, 9⅓ lin.; lat. 5⅔ lin.

Hab. Mendoza.

This species is very closely allied to the *N. puncticollis*, and it is with considerable hesitation that I venture to describe it as distinct, more especially as Mr. Darwin's collection contains but one specimen, and that has lost its head and legs; this specimen, however, differs considerably in form from any of the numerous examples of *N. puncticollis* which I have before me. The thorax is narrower and less thickly punctured; the elytra are more elongated, and the lateral transverse grooves are more distinct and regular.

The thorax is transverse, and the length is equal to rather more than half the width; the middle and hinder parts are very nearly equal in width, and the anterior portion is contracted; the surface is distinctly punctured, and there are two irregular foveæ on each side of the middle, rather nearer to the mesial line than the outer margin. The elytra are one-fourth longer than broad; the apical portion is moderately produced and somewhat pointed: the whole upper surface of the elytra is covered with very minute rugæ, and there are moreover some minute tubercles; on the outer half of each elytron is a series of transverse furrows, with convex interspaces equal in width to the furrows.

NYCTELIA SAUNDERSII. *Nyct. atra, oblongo-ovata, nitida; thorace punctato; elytris sulcis transversis paulò irregularibus a margine laterali usque ad medium ductis.*

Long. corp. 7½ lin.; lat. 4 lin.

Hab. Bahia Blanca.

Head distinctly punctured in front. Thorax rather coarsely punctured, excepting on the disc, which is almost impunctate; emarginated in front, the emarginated portion in the form of a segment of a circle; the lateral margin slightly rounded. The hinder part of the thorax and the middle are equal in width; the fore-part is slightly contracted. The elytra are ovate, and but little convex; they are depressed at the suture, most distinctly so near the scutellum. The lateral keel is very prominent, and extending from this keel to the middle of the elytron are distinct transverse furrows, the interspaces of which are convex, and about equal in width to the grooves. The apical portion of the elytra is moderately produced. The three basal segments of the abdomen, as well as the metasternum, are covered with slightly irregular longitudinal rugæ: the terminal segment is punctured. The prosternum and mesosternum are coarsely punctured, and the punctures are confluent.

This is a small species compared with *N. lævis* (being about the size of *N. nodosa*); its form is more elongated and much less convex. The lateral margins of the thorax form an even curve from the front to the back.

The specimens from which the above description is drawn up were found by Mr. Darwin in the month of September, on the sandy plains of Bahia Blanca.

NYCTELIA RUGOSA. *Nyct. nigra, opaca, ovata; thorace distinctè punctato; elytris valdè rugosis, sulcis duobus, suturam prope, longitudinalibus et interruptis, impressis.*

Long. corp. 7¾; lat. 4⅔.

Hab. San Blas (near Rio Negro) and Bahia Blanca.

This, which is a small species compared with *N. lævis*, approaches that species in general form, but the thorax and elytra are less convex. The head is coarsely punctured in front. The thorax is coarsely punctured, and the punctures are numerous, excepting on the disc: a groove runs parallel with and close to the margins, but at the posterior margin it is interrupted in the middle. The elytra are convex, and of a short ovate form, and the apical portion is but little produced; their width is about one-fifth less than the length: the whole upper surface is covered with coarse and very irregular rugæ.

Four somewhat interrupted and irregular striæ run parallel with and near the suture, and there are two abbreviated oblique striæ near the scutellum. Besides the ordinary rugæ of the elytra, there are more marked rugæ, which, though very irregular, have a tendency to a transverse disposition, and these cover the outer half of each elytron. The prothorax is punctured beneath and rugose between the legs, as well as the mesosternum and metasternum. The three basal segments of the abdomen are covered with fine but distinct rugæ, and though these rugæ, for the most part, have a longitudinal direction, they are much more irregular than in most species of the genus. The two terminal segments are punctured, but in the penultimate segment the punctures are very few in number, and confined to the sides. The spines at the apex of the anterior tibiæ are more slender and proportionately longer than in *N. lævis.*

Besides the two specimens, one from Bahia Blanca and the other rather further south (San Blas), Mr. Darwin's collection contains a specimen from Tierra del Fuego which is smaller (length $6\frac{2}{3}$ lin., width $3\frac{3}{4}$ lines) and proportionately narrower; but these differences are combined with a greater length of tarsus, and are precisely such differences as exist between the sexes of other species; in fact, it is no doubt the male of the insect from which the above description is taken.

NYCTELIA WESTWOODII. *Nyct. brevitèr ovata, nitida, atra; capite subpunctato; thorace transverso, posticè paulò latiore quam anticè, levitèr convexo, lævi, margine laterali imperspicuè crenulato; elytris ovatis, profundè striatis, interstitiis convexis, striis utrinque ad suturam duabus longitudinalibus, striis reliquis obliquis.*

Long. corp. $7\frac{1}{2}$ lin.; lat. $4\frac{3}{4}$ lin.

Hab. Port Desire.

Head with a few punctures in front. Thorax convex, about twice as broad as long, with the middle and hinder parts about equal in width, and the fore-part contracted; the anterior part emarginated, the emarginated portion in the form of a segment of a circle; the hinder margin but slightly waved; a distinct groove runs close to the anterior and lateral margins, which latter are crenulated. Elytra short and rounded; the length and width equal, if the produced apical portion be omitted in the measurement; the apex is moderately produced: the whole surface of the elytra is covered with deep striæ, leaving convex interspaces which are scarcely broader than the grooves; on each side of, and parallel with the suture, are two of these striæ; the remaining grooves are oblique, and for the most part converge towards the apical portion of the elytra: on the sides of the elytra, and more especially towards the apex, the grooves have a tendency to a transverse disposition. The mentum is very coarsely punctured, and there are some distinct punctures on the sides of the head beneath. The prothorax presents a few large scattered punctures beneath, some short irregular (but for the most part transverse) rugæ at the lateral margin, and some longitudinal rugæ near the base of the legs; between the legs the prosternum has some confluent punctures; the mesosternum and metasternum have irregular rugæ, and the three first abdominal segments have minute longitudinal furrows; the penultimate segment is smooth, and the apical one is finely punctured, but the punctures are by no means numerous. The legs and antennæ are rather shorter than usual in the genus.

NYCTELIA STEPHENSII. *Nyct. atra, nitida, lævis; thorace subquadrato; elytris rotundato-ovatis, convexis, carinâ laterali prominenti et crenulatâ; elytrorum apicibus productis latis et subcomplanatis.*

Long. corp. 7 lin.; lat. $4\frac{1}{3}$ lin.

Hab. St. Cruz.

Head with scattered punctures in front. Thorax transverse, the width being rather less than double the length; the upper surface is but little convex; the anterior and posterior margins are nearly straight, but the anterior angles are produced and the posterior angles are slightly produced. The width of the fore and hind parts of the thorax is nearly equal, it being but slightly narrower in front, and the sides deviate but little from a straight line; a faint dorsal channel is observable, and a groove runs parallel with and close to the lateral and anterior margins. With the assistance of a strong lens, minute punctures may be observed scattered over the upper surface of the thorax, and some minute tubercles on the under. The elytra are convex, and of a short rounded form, the width and length being very nearly equal, if we do not include the produced apical portion, which is more dilated than in most of the genus, and is nearly flat. A groove runs close to and parallel with the lateral keel, both above and below, and this keel is distinctly crenulated. The upper surface of the elytra presents numerous indistinct and very shallow foveæ. The abdominal segments are almost smooth. The legs are proportionately rather longer than in *N. lævis*.

Mr. Darwin found this species at St. Cruz in the month of April.

NYCTELIA NEWPORTII. *Nyct. elongato-ovata, nigra, nitida; capite transversè impresso; thorace lato plus quàm longo, lateribus rotundatis; anticè et posticè latitudine compari; supernè minimè convexo, impunctato, ad latera rugis parvulis obliquis; elytris ovatis, lævibus, plagâ suturali valdè impressis, marginibus lateralibus crenulatis.*

Hab. Patagonia.

Long. corp. 10 lin.; lat. 6 lin.

This species is rather smaller than *N. lævis*, and differs moreover in being of a more elongated form, and most especially in the form of the thorax, which is narrower and nearly equal in width, in front and behind: the apical portion of the elytra is much less produced, and the produced portion is broader. The head is sparingly punctured at the sides, and has a curved impression, the chord of which is rather in front of the insertion of the antennæ. The thorax nearly one-third broader than long (taking the length from the anterior and posterior angles); it is broadest in the middle, and a trifle narrower in front than behind; the lateral margins form an even curve; the anterior part is emarginated, the emarginated portion being in the form of a segment of a circle, and a little less than a semicircle: the anterior angles acute, and the posterior angles form very nearly right angles: the hinder margin of the thorax is nearly straight, but the line descends slightly towards the angles. The surface of the thorax is very little convex, and almost impunctate, there being but a few scattered very minute punctures; on the sides, running inwards and upwards, are a series of minute grooves, like scratches, and on the hinder margin a faint trace of very short longitudinal grooves is visible. The elytra are ovate, convex, smooth, and glossy; the region of the suture is broadly and rather deeply depressed; the lateral keel is prominent and distinctly crenulated, and joining this keel are a series of shortish transverse furrows. The under surface of the body and thoracic segments is remarkable for the almost total want of sculpturing, if we except some longitudinal furrows on the under side of the prothorax at the sides.

The exact habitat of the specimen from which the above description is taken is not known, but in Mr. Darwin's collection is a specimen which I am inclined to regard as specifically identical, and which is from St. Julian. It has the elytra proportionately rather broader and the thorax narrower, and the short longitudinal furrows on the hinder margin of the thorax are distinct; the sutural portion of the elytra is less depressed.

NYCTELIA GUERINII. *Nyct. atra, nitida, ovata; capite transversìm impresso; thorace subquadrato in medio paulò dilatato, anticè emarginato, posticè ferè recto; ad marginem lateralem sulcis minutis valdè obliquis insculpto; elytris ovatis, convexis, ad apicem paulò productis, ad latera rugis transversis in seriebus tribus dispositis.*

Long. corp. 9½ lin.; lat. 5¾ lin.

Hab. St. Cruz.

Rather smaller than *N. lævis.* Head with small punctures very thinly scattered over the upper surface, and with a transverse impression rather in front of the line of the eyes. Thorax subquadrate, the breadth not quite equal to twice the length; the emarginated portion in front in the form of a segment of a circle; the hinder margin nearly straight; the posterior angles scarcely produced, and forming nearly right angles; the anterior angles acute. The thorax is contracted in front, broadest in the middle, and the lateral margin from the middle to the posterior angles forms nearly a straight line: on the hinder part of the upper surface are some extremely minute punctures, and at the sides are some small oblique grooves. The elytra are ovate and moderately convex, and the apical portion is but little produced; the region of the suture is very slightly indented: the sides of the elytra are covered with transverse grooves having narrow convex interspaces; these grooves extend inwards to about the middle of each elytron, and are arranged in three series, being divided by two longitudinal lines; the innermost series is indistinct: the lateral keel is distinctly crenulated. The mentum is distinctly punctured; the prosternum, as well as the other thoracic segments, and the abdominal segments, have the usual sculpturing, but it is less strong than usual.

It is with some hesitation that I name this insect, since it approaches very near to the *N. Newportii*; it differs, however, in having the thorax smaller and proportionately narrower, the elytra less convex, and furnished at the sides with three rows of transverse impressions instead of one; the region of the suture is less depressed.

NYCTELIA SULCICOLLIS. *Nyct. ovata, atra; thorace transverso, ad latera rotundato, anticè angustiore, sulcis minutis longitudinalitèr impresso; elytris crebrè punctatis (punctis confluentibus), tuberculisque minutis instructis: capite, thorace elytrorumque lateribus pilis vestitis, pedibusque etiam pilis instructis.*

Long. corp. 8¼ lin.; lat. 5½ lin.

Hab. St. Cruz.

Much smaller than *N. lævis*, and of a shorter and more rounded form. The upper surface of the head is very thickly punctured throughout, and the punctures run into each other so as to form irregular rugæ. The thorax is twice as broad as long, and has a deep and almost semicircular emargination in front; the anterior angles are acute, and the posterior angles are obtuse, and not produced as in many species of the genus, the hinder margin of the thorax presenting a nearly straight, or but very slightly waved line: the broadest part of the thorax is near the posterior angles, the narrowest part is in front, and the lateral margins are rounded in such a manner that the thorax might almost be described as semicircular, and having the fore-part emarginated. The whole upper surface of the thorax is covered with small but distinct grooves, leaving convex ridges between them about equal in width to the grooves; these furrows are longitudinal in their direction, or very nearly so, excepting in the fore-part, where they diverge from the mesial line and run up to the anterior margin, and at the sides of the thorax, where the grooves are irregular, but have a tendency to a transverse disposition. The under side of the thorax presents similar longitudinal grooves, excepting in the middle, where it is rugosely punctured; scattered hairs cover this under surface of the thorax; and towards the lateral margin the hairs, which are moderately long, are much more numerous and form a projecting fringe, which is visible when the insect is viewed from above. The elytra are of a short ovate form, about one-fourth broader than the thorax, and scarcely one-fifth longer than broad; the apical portion is but little produced: the upper surface is convex, and is thickly covered with small confluent punctures, amongst which minute tubercles are scattered; towards the lateral keel, which is very little prominent, the tubercles are distinct. The sculpturing of the portion of the elytra beneath the keel resembles that above it, but here the tubercles give origin to small hairs*. The meso- and metasternum present irregular rugæ.

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* Probably similar hairs originally sprang from the tubercles on the upper surface, but have been worn off.

On the first and basal half of the second abdominal segments are distinct longitudinal rugæ, and a slight trace of similar rugæ is observed at the base of the third segment; on other parts of these segments are some minute scattered punctures. The terminal segment is rather thickly though finely punctured. The legs are clothed with longish ash-coloured hairs.

Nyctelia nodosa, Latr. *Zophosis nodosa*, Germar ?

Five specimens of this species are contained in the collection of Mr. Darwin, and these are from three different localities, viz. Maldonado (La Plata), Bahia Blanca, and Mendoza.

NYCTELIA ANGUSTATA. *Nyct. atra, elongata, nitida; capite distinctè punctato et tranversìm impresso; antennis piceis; thorace subquadrato, lateribus ferè rectis, anticè emarginato, suprà punctis minutissimis; elytris subelongatis, et cum thorace quoad latitudinem ferè coœqualibus, costis aliquantò irregularibus subelevatis interstitiis rugulosis, ad latera plicis transversalibus.*

Long. corp. $7\frac{1}{4}$ lin.; lat. $3\frac{2}{3}$ lin.

Hab. Patagonia ?

The specimen from which the above characters are taken is a male, and by accident its label, containing the habitat, is lost; it is most probably from Patagonia. In general appearance the *N. angustata* greatly resembles the *N. nodosa*, but it differs in being of a narrower form, and in having the terminal joints (the fifth to the tenth inclusive) broader; the anterior tibiæ are also broader and rather shorter, and the thorax is longer in proportion to the width.

The head is distinctly and very thickly punctured in front. The thorax approaches to a quadrate form, but is slightly narrower in front than behind; the lateral margins form a very slight curve, and in fact are nearly straight; in front it is emarginated, and the emarginated portion is in the form of a segment of a circle; the hinder margin is but little waved; the anterior angles are acute, and the posterior angles are slightly produced and rounded at the point; a faint impressed line borders the anterior and lateral margins: the upper surface is but little convex and finely punctured, but on the disc the punctures are scarcely traceable: the length of the thorax is about equal to three-fifths of the width, whereas in *N. nodosa* the length is about equal to half the width. The elytra are very little broader than the thorax, being scarcely dilated in the middle, and are about one-third longer than broad; they have interrupted and somewhat irregular longitudinal grooves or striæ, and the interspaces are convex; the third and fifth most distinctly so: the striæ and interspaces on the lateral half of each elytron have distinct irregular rugæ, the largest of which are for the most part transverse in direction: the legs are long; the claws are of a pitchy colour. The fifth, sixth, seventh and eighth joints of the antennæ are somewhat compressed, broader than long, and produced in front so as to present nearly a triangular form; the ninth and tenth are still broad, but of a somewhat rounded form.

Genus EPIPEDONOTA.

EPIPEDONOTA RUGOSA. *Epip. atra, opaca: capite rugoso; thorace lato plusquàm longo, posticè angustiore, depresso supernè rugis valdè irregularibus, illis apud marginem exteriorem plerùmque longitudinalibus, illis apud discum ferè transversis, et utrinque costâ majore sublongitudinali definitis; elytris subovatis undatìm rugis plerùmque transversis, et utrinque costâ apud discum valdè elevatâ, deindè alterâ minus elevatâ inter illam et carinam lateralem.*

Long. corp. $8\frac{1}{2}$ lin.; lat. $3\frac{3}{4}$ lin.; vel, long. $11\frac{1}{3}$; lat. $5\frac{3}{4}$.

Hab. Petorca?

The whole upper surface of this insect is covered with well-marked irregular rugæ; these are for the most part longitudinal in their direction on the clypeus, and there is a transverse indentation marking the posterior boundary of this part: a little behind the line of the eyes is a somewhat irregular transverse ridge, and in the middle, between this ridge and the transverse groove just mentioned, is a short longitudinal ridge. The labrum is rugosely punctured. The thorax is very nearly twice as broad as long; its anterior and posterior margins are nearly straight, excepting near the lateral angles, which are produced. Besides the ordinary rugæ on the thorax, there are two large longitudinal and slightly curved ridges, situated one on each side, nearly midway between the mesial line and the outer margin; and on each elytron is a strongly elevated costa or ridge, extending from the base very nearly to the apex, and running nearly parallel with the lateral keel of the elytron, on the mesial line of which they are placed. The spaces between these costæ is somewhat concave, and so is the interstice of the costa and the lateral keel of the elytron, which is crenulated or irregularly indented. The mentum is very coarsely punctured, and the punctures are confluent. The under side of the head is punctured, and there are numerous coarse punctures on the prosternum between the legs. The basal segments of the abdomen have small longitudinal sulci beneath.

Besides the great difference in size and form indicated by the dimensions, there occurs sometimes a difference in the sculpturing of the thorax and elytra, which I could scarcely have believed to exist in the same species had I not had an opportunity of examining many specimens. In a specimen before me, the rugæ on the head, thorax and elytra are much less distinct than the individuals from which the above description is taken; and this is combined with a convexity of the elytra (which are almost always concave between the two dorsal costæ and also between these costæ and the lateral keel), giving a very different aspect to the specimen under consideration.

In having the thorax distinctly contracted behind, and in the more truly moniliform structure of the antennæ, the present insect approaches more nearly to *Callyntra* than to *Epipedonota*, but the terminal joint of the antennæ is decidedly smaller than the rest. I have before me specimens of the *Callyntra multicostata* and *Call. vicina* (which I scarcely think a distinct species), and do not find so marked a difference in the size of the terminal joint of the antennæ as compared with the penultimate joint, as that represented by M. Solier's figure—indeed the penultimate joint and terminal appear to me to be equal in size, or *most* nearly so.

EPIPEDONOTA AFFINIS. *Epip. atra, nitida: capite anticè punctis sparsis, et posticè rugis transversis undulatis, notato; thorace latiore quàm longo, ad medium depresso, rugis vel plicis ferè longitudinalibus, ad latera transversis notato; elytris thorace latioribus, propè suturam ferè lævibus, singulorum dimidio externo sulcis transversis, his costâ longitudinali, in duas series divisis; prosterno sulcis distinctis longitudinalibus; segmentis abdominalibus leviter longitudinali-sulcatis.*

Long. corp. 9½ lin.; lat. 5⅓ lin.

Hab. Petorca?

This species is of a shorter and broader form than *Epip. ebenina,* the furrows on the thorax are smaller and more numerous, and the elytra present but one distinct costa besides the lateral keel, the ridge corresponding to that nearest the suture in *E. ebenina,* being here obliterated, or very nearly so.

The head presents some scattered punctures in front, and, generally, there are some waved transverse impressions towards the hinder part, leaving narrow ridges between them. The thorax is twice as broad as long, has the sides distinctly rounded, the fore-part emarginated in the form of a segment of a circle; the anterior angles are acute, and there is a small indentation in the outer margin close to the angle; the posterior margin is nearly straight in the middle, but the angles are produced: the upper part of the thorax presents a slightly concave surface, and is covered with small sulci; those in the middle are oblique, converging to or towards the hinder part of the mesial line; about midway between this line and the outer margin they become longitudinal in their direction, and a space bordering the lateral margin is covered with oblique but nearly transverse narrow grooves and ridges. The width of the elytra, compared with that of the thorax, is nearly as seven to five, and the elytra are about one-fourth longer than broad, or rather less; the dorsal surface is plane and almost destitute of sculpturing; on the sides are two series of transverse furrows, which are separated by a strong costal ridge; the innermost of these two series of transverse grooves is obliterated towards the base and apex of the elytron, but in the middle they are strongly marked, as are also the transverse grooves between the costal ridge and the lateral keel: on the apical half of each elytron a faint trace of the costa, corresponding to the innermost one in *E. ebenina,* is observable.

Numerous specimens of this new species were contained in Mr. Bridges's collection.

Epipedonota ebenina, Solier. *Nyctelia ebenina,* Auct.

Four specimens of this species were brought by Mr. Darwin from Mendoza; two of these are females, and present a character I have not before observed in the species, viz. some zigzag white lines at the apex of the elytra; these lines are observable in the grooves between the costæ: in one specimen there are three of the white lines on each elytron, corresponding with the number of interspaces of the costæ; they are interrupted, and form dots as they recede from the apex of the elytron. In the other specimen there are but two of these lines visible.

Epipedonota erythropus, Solier. *Nyctelia erythropus*, Auct.

Mr. Darwin also found this species (if it be really distinct from *ebenina*) at Mendoza.

Epipedonota Bonariensis. *Epip. atra, nitida; thorace suprà irregulariter et longitudinaliter multiplicato, ad latera crenato; elytris utrinque costis duabus elevatis, et sulcis transversalibus ordine triplici.*

Long. corp. $11\frac{1}{2}$ lin.; lat. $5\frac{3}{4}$ lin.; vel, long. $9\frac{2}{3}$ lin.; lat. 5 lin.

Hab. Monte Video and Bahia Blanca.

The species nearly resembles the *E. ebenina*, but differs in being larger and proportionately broader; as in *E. ebenina*, each elytron has two longitudinal elevated costæ besides the lateral keel; but the interspaces of all the costæ are indented with transverse furrows, whereas in *E. ebenina* only the two outermost interspaces have these furrows, and here they are much less strongly marked. The lateral keel in *E. ebenina* presents a nearly even line, but in *E. Bonariensis* the keel is distinctly indented; the sulci on the thorax are less strongly marked and more numerous.

Seven specimens of this species occur in Mr. Darwin's collection.

Epipedonota lata. *Epip. atra, nitida, lata; capite punctis dispersis anticè, apud medium sulco transverso, et posticè sulcis paucis obliquis; thorace sulcis, his obliquis, illis apud medium longitudinalibus, illis margini proximis transversis, insculpto; elytris convexis costis latis paulò elevatis posticè subobliteratis, spatio inter costam secundam et carinam externam, sulcis profundis transversis notato.*

Long. corp. $9\frac{3}{4}$ lin.; lat. 6 lin.; vel, long. $8\frac{2}{3}$ lin.; lat. 5 lin.

Hab. Port Desire.

This species is larger and proportionally much broader than *E. ebenina*. The thorax, in proportion to the size of the insect, is much broader than in any other species of *Epipedonota* here described, the width being nearly equal to two-thirds of the length of the elytra; whereas in *E. affinis*, which I have described as a shorter and broader species than *E. ebenina*, the width of the thorax is scarcely more than equal to half the length of the elytra.

The head is punctured in front and has some waved transverse grooves and ridges between the eyes. The thorax is about twice as broad as long, emarginated in front nearly in the form of a segment of a circle; the lateral margins are rounded; it is widest a little behind the middle and narrowest in front; the anterior and posterior angles are acute; the upper surface is nearly flat, but the lateral margins are slightly reflected; the anterior mesial portion is a little convex, and the posterior mesial portion is sometimes slightly concave; the whole surface is covered with narrow grooves and ridges; those on the dorsal part of the thorax are longitudinal but slightly irregular, towards the sides they are oblique, diverging slightly behind, and a broadish space at the sides is covered with sub-transverse grooves, these being directed inwards and slightly upwards from the lateral margin. The width of the elytra, as compared with the length, is as 4 to 5; their upper surface is convex, excepting at the base, where they are somewhat depressed: on each elytron are three longitudinal narrow grooves, these are distinct and wavy at the base of the elytra; the first groove, or that nearest the suture, is obliterated on the hinder half of the elytron; the second is continued nearly to the apex, but from the base it becomes gradually less distinct; the third extends to the apex, and forms as it were the outer boundary to the convex portion of the elytra for the space between the last-mentioned line and the lateral keel, which is nearly equal in width to one-third of that of the elytron, is nearly flat, or even slightly concave in the males; on this space is a series of deep transverse indentations, leaving convex interstices of a width corresponding to that of the grooves. The two interspaces between the first, second and third striæ of each elytron are very broad and slightly convex; and on the second or outermost of these interspaces are a few oblique furrows, which are not very distinct, and for the most part rather widely separated. Besides the longitudinal striæ mentioned, there are some others, but these are short and confined to the base of the elytra; in the males about five or six longitudinal grooves may be seen at the base of each elytron, and all of these grooves are more or less wavy. The sides of the prosternum present distinct longitudinal sulci, and narrow longitudinal sulci are observable on the abdominal segments.

Three specimens of this new species were brought from Port Desire by Mr. Darwin.

Genus Callyntra, Solier.

Callyntra vicina, Solier. One specimen of this species was brought from Valparaiso by Mr. Darwin.

Genus Cerostena, Solier.

Cerostena punctulata. *Cer. atra, elongato-ovata; capite crebrè punctato et transversìm impresso; thorace transverso, anticè profundè emarginato, suprà ferè plano, punctato; marginibus lateralibus reflexis, disco foveis duabus impresso; elytris oblongo-ovatis, paulò convexis, suprà punctulatis, singulis costis duabus dorsalibus subobliteratis; carinâ laterali paulò prominente.*

Long. corp. 8¾ lin.; lat. 4¾ lin.

Hab. St. Cruz.

In general appearance the present species resembles the *Blaps obtusa*, but the thorax is much shorter and the body more depressed. On the hinder part and sides of the elytra is an ashy pubescence, and I think it probable that small hairs have originally been scattered over the whole upper part of the elytra and have been rubbed off the most exposed parts. On the under side of the head and body small hairs are also perceptible in the less exposed parts. The prosternum is very rugose beneath on the fore-part, and has distinct longitudinal furrows at the sides, as has also the mesothorax; the abdominal segments are thickly punctured, and there are longitudinal rugæ on the basal segments. The legs and tarsi are moderately well clothed with small yellowish hairs.

Unfortunately the antennæ are not perfect in the only specimen which Mr. Darwin brought home of this species; in the characters afforded by other parts, however, it agrees with M. Solier's genus *Cerostena*: the absence of sulci on the upper surface of the thorax would serve to distinguish it from the species of that genus hitherto described.

Psectrascelis pilipes, Solier. *Nyctelia pilipes,* Guerin. Numerous specimens of this species were brought from Coquimbo by Mr. Darwin.

Entomoderes Erebi, Solier. Mr. Darwin's collection contains one specimen of this curious insect, and this was found at Mendoza.

Mr. Waterhouse next proceeded to characterize the following new species of *Curculionidæ* from the collections of Mr. Darwin and Mr. Bridges.

Divisio CLEONIDES, Schoenherr.

Genus Listroderes, Scho.

Listroderes subcostatus. *Listr. niger, opacus, fusco-squamosus; antennis piceis; rostro brevi, carinato; thorace punctatissimo, subquadrato, postice angustiore, setis fuscescentibus instructo; elytris punctato-striatis, fusco-setosis, interstitiis alternatis subelevatis.*

Long. corp. et rostri, 6 lin.; lat. 2¼ lin.; long. 4¾, lat. 2 lin.

Hab. Valleys of Petorca.

Rostrum about half as long again as the head, with three costæ above, the central one but little developed, and the lateral costæ indistinct; the space between the costæ finely rugose; the whole surface of the rostrum covered with distinct yellowish hairs. Head thickly punctured, the punctures confluent, and with an impressed point between the eyes. Thorax about one-third broader than long, emarginated in front, nearly straight behind, but slightly indented in the middle; the broadest part of the thorax is about the anterior third; from this point it is contracted in width, both before and behind, in nearly equal proportions; the upper surface is nearly flat, and very thickly and distinctly punctured; the punctures more or less confluent; a faint dorsal ridge is sometimes perceptible; small spiny semierect hairs cover the thorax; elytra moderately long, with the humeral angles forming right angles; the apex rounded, the width about one-fourth greater than that of the thorax; the upper surface moderately convex, covered with brown scales, and having interspersed erect spiny hairs; punctate-striated, the interstices very finely shagreened; the third, fifth, and the seventh from the suture, raised; a few black spots are irregularly scattered over the elytra, and in some specimens are some whitish spots arranged in lines on the apical portion of the elytra.

From the collection of Mr. Bridges.

Listroderes pilosus. *Listr. niger, opacus, setosus, fusco-squamosus; antennis tarsisque fuscescentibus; rostro indistinctissimè carinato; thorace crebrè punctato, subquadrato, lateribus subrotundatis; elytris punctato-striatis. Capite, thorace, elytrisque squamis fuscis atque nigrescentibus densè tectis.*

Long. corp. et rostri, $3\frac{1}{3}$ lin.; lat. $1\frac{1}{4}$ lin.

Hab. Valleys of Petorca.

About equal in size to *Sitona fusca.* Rostrum a trifle longer than the head, slightly rugose, and with a very indistinct longitudinal carina. Head thickly punctured, the punctures confluent, and an impressed line between the eyes. Thorax subquadrate, and somewhat depressed; very thickly, but not coarsely punctured, the punctures confluent; the width greater than the length; the sides nearly straight and parallel, excepting near the base and apex of the thorax, where the width is gradually contracted. Elytra but little wider than the thorax, somewhat convex and elongated; the humeral angles rounded, and the apical portion rather attenuated, but with the tip rounded; the sides subparallel; punctate-striated; the punctures, of moderate size, are rather close together; the interstices of the striæ nearly flat, and apparently slightly rugose.

The sculpturing of the rostrum, head, thorax and elytra is with difficulty examined, all these parts being densely clothed with scales; these are chiefly of a brown colour, but in parts they are of a blackish hue. On the thorax is an indistinct dusky line in the middle, and one or two dusky patches at the sides; the elytra are variegated with deep and pale brown.

From the collection of Mr. Bridges.

Listroderes costirostris, Scho. Several specimens of this species are contained in Mr. Darwin's collection, having been collected at Maldonado; and there are, moreover, specimens collected at Coquimbo which present no distinguishing character, excepting in being of a larger size, viz. total length $5\frac{1}{2}$ lines, width $2\frac{1}{4}$ lin.; those from Maldonado being $4\frac{1}{2}$ lines in length and $1\frac{3}{4}$ in width.

Listroderes robustus. *Listr. breviter ovatus, niger, opacus, fusco-squamosus, setosus; antennis fuscescentibus; rostro longiusculo, carinato, pilis minutis decumbentibus tecto; thorace crebrè punctulato, brevi, vittâ albâ ornato, lateribus subrotundatis; elytris breviter ovatis, punctato-striatis, fasciâ albescente, ad latera interruptâ, ornatis, singulatîm tuberculo subapicali instructis.*

Long. corp. et rostri, $4\frac{1}{3}$ lin.; lat. $2\frac{1}{5}$ lin.

Hab. Coquimbo.

In size and form this species may be compared to the *Phytonomus punctatus.* Rostrum about twice as long as the head, covered with minute decumbent brownish hairs, and with a longitudinal carina. Thorax rather broader than long, very suddenly contracted in front, and broadest near the fore-part; the sides slightly rounded, or nearly straight; the posterior angles rounded, and the posterior margin indistinctly produced in the middle; the surface very thickly punctured and covered with pale brownish scales, and having interspersed minute hairs; in parts the scales assume a deeper hue, and in the middle is a whitish line. Elytra about one-third broader than the thorax, convex, and of a short ovate form; punctate-striated; the interstices obscurely punctured, and slightly convex; they are covered with brownish scales, and have interspersed minute pale hairs; rather behind the middle is a broadish curved mark, which is obliterated on the sides of the elytra; and towards the apex is a small angular tubercle.

From the collection of Mr. Darwin.

LISTRODERES APICALIS. *Listr. squamosus, fusco-albescens; antennis piceis; rostro carinâ longitudinali fuscâ; capite notis duabus fuscis anticè convergentibus; thorace anticè quam posticè latiore, ad latera ferè recto, anticè foveâ incurvatâ, lineâ albâ longitudinali; elytris thorace duplo latioribus, punctato-striatis; singulis notâ nigrescente obliquâ, ad apicem albescente, tuberculo distincto subapicali.*

Long. corp. et rostri, $3\frac{1}{4}$; lat. $1\frac{1}{3}$ lin.

Hab. Monte Video.

This species is considerably less than the *L. costirostris*, being about equal in size to the *Phytonomus rumicis*. The rostrum is rather slender, nearly twice as long as the head, covered with minute decumbent hairs, which are of a whitish brown colour; in the middle is a longitudinal carina. The thorax is broader than long; the broadest part is considerably in front of the middle; in front it becomes somewhat suddenly contracted; the sides of the thorax converge from near the anterior part towards the base, and are nearly parallel; the posterior margin is slightly rounded, being produced in the middle; the hinder angles are obtuse; the upper surface of the thorax is nearly plane, presenting scarcely any convexity, and in the fore-part is a curved impression, the extremities of which lead up to the anterior angles; it is densely clothed with scales, and these are of a very pale brownish colour; in parts the scales are of a deep brown colour, and in the middle is a longitudinal line, formed of whitish scales; besides the scales are some very minute, semierect, scattered dusky hairs; the sculpturing cannot well be seen, owing to the covering of scales, but the thorax appears to be very thickly though not coarsely punctured. The elytra are oblong, about one-third broader than the thorax; the humeral angles are prominent and rounded; the sides nearly straight, and the apex rounded; the surface is convex, but somewhat depressed at the basal portion of the elytra; punctate-striated; covered with pale brownish scales, having moreover some very minute scattered spines; the third and fifth interstices of the striæ on each elytron are slightly raised; rather behind the middle is an oblique deep brown patch, behind which the scales are white, or nearly so; a distinct angular tubercle is observable on each elytron, at a short distance from the apex. The legs and antennæ are brown, and covered with minute palish hairs; near the apex of each of the femora is a whitish ring.

In the collection of Mr. Bridges are several species of *Curculionidæ* closely allied to *Listroderes*, but differing in having the antennæ more slender and elongated; the club is very long, distinctly jointed, and very slightly incrassated; the legs are longer, and the body is covered with minute hairs, or hair-like scales, whilst all the species of *Listroderes* examined by me have the body distinctly clothed with scales. Moreover, in none of the insects under consideration do I find the tubercles on the apical portion of the elytra, which are so common in the *Listroderes*. Such differences, though readily seen, it is impossible to express by a generic term. I have determined to designate this new genus by the name

Adioristus[*], nov. gen.

Antennæ longæ, tenues; scapus ad apicem subincrassatus; articuli funiculi obconici, 1° longo; clava elongata distinctè triarticulata.
Rostrum capite ferè duplo longius, crassiusculum, subarcuatum, versus apicem incrassatum, suprà carinatum: mandibulæ tenues paulo elongatæ.
Oculi subovati, subdepressi.
Thorax transversus, ponè oculos lobatus, suprà subdepressus.
Elytra elongato-ovata, convexa, ad apicem rotundata.
Tarsi elongati, subtenues, subtùs spongiosi.

Adioristus punctulatus. *Ad. niger, fusco-pilosus; antennis, tibiis tarsisque piceis; rostro brevi, crasso, carinato; thorace punctulato, brevi subquadrato, anticè angustiori, posticè utrinque subemarginato; elytris oblongo-ovatis, convexis, punctato-striatis, interstitiis alternatis maculis parvulis nigris atque albescentibus ornatis.*

Long. corp. et rostri, $6\frac{1}{3}$ — $8\frac{2}{3}$ lin.; lat. $2\frac{1}{2}$ — $3\frac{1}{3}$ lin.

Hab. Valleys of Petorca.

The whole insect is covered with minute decumbent hairs, and these are of an ashy-brown colour. The rostrum is stout, considerably dilated at the apex, and about twice as long as the head; rugose, and has fine longitudinal keels on the upper surface, of which the central one is most strongly developed, and the one next it on each side indistinct. The head is convex above, and thickly punctured. The thorax is about one-third broader than long; the anterior margin is straight, and the lateral margins are very nearly straight; the anterior part is rather narrower than the hinder part; the hinder margin is in the form of a segment of a circle, being produced in the middle, and joins the lateral margin so as to form a somewhat salient but obtuse angle; the upper surface is but very slightly convex, and thickly and distinctly punctured. The elytra are convex, and of an elongate-ovate form, and scarcely one-third broader than the thorax; the upper surface is densely clothed with minute hairs; punctate-striated, the punctures not very large, and distinctly separated; the interstices are plane, or indistinctly convex,

[*] From ἀδιόριστος, *undefined*, &c.

and are very finely punctured. On each stria is a series of small black and whitish spots, and these most of them are oblong.

Adioristus angustatus. *Ad. niger, fusco-pilosus; antennis, tibiis tarsisque fuscescentibus; rostro brevi, crasso, carinato; thorace punctulato ad latera et posticè subrotundato; elytris thorace paulò latioribus, elongatis, subovatis, punctato-striatis, maculis parvulis nigris ornatis.*

Long. corp. et rostri, 5½ lin.; lat. 2 lin.

Hab. Valleys of Petorca.

This species closely resembles the last in many respects, and especially in its colouring, and in being covered with minute ashy-brown decumbent hairs, but it is of a narrower and more elongated form, and of a much smaller size.

The rostrum is about half as long again as the head, rugose, and has three parallel keels on the upper surface, of which the central one is the most prominent. The head is thickly punctured. The thorax is scarcely one-third broader than long, slightly emarginated in front; the sides are nearly straight and parallel, but near the anterior part they gradually converge, so as slightly to contract the width of the thorax at this part; about the posterior third of the thorax the sides also converge towards the posterior margin, so that the thorax may be described as obliquely truncated on each side behind: the posterior margin is straight; the upper surface is nearly flat, and thickly and distinctly punctured. The elytra are moderately convex and of an elongated ovate form, and about half as broad again as the thorax; punctate-striated, the punctures of moderate size and distinctly separated, excepting on the hinder part of the elytra; they are densely clothed with decumbent ashy-brown hairs, and on each stria is a series of oblong blackish spots; the interstices are very delicately but thickly punctured.

Adioristus conspersus. *Ad. niger, subopacus, fusco-pilosus; antennis tarsisque fuscescentibus; rostro brevi, crasso, carinato; thorace punctatissimo, subquadrato, posticè paulò angustiore, modicè convexo, lateribus subrotundatis; elytris quoad latitudinem thorace ferè coæqualibus, lateribus subparallelis, punctato-striatis, interstitiis planis.*

Long. corp. et rostri, 5½ lin.; lat. 2¼ lin.

Hab. Valleys of Petorca.

Rostrum about half as long again as the head, much dilated at the apex, with three distinct carinæ, and the two outer carinæ converging slightly towards the base of the rostrum; between the carinæ are minute longitudinal rugæ, but these are hidden by the numerous small brownish hairs which cover this and other parts of the insect. The head is thickly punctured, and there is a minute oblong depression between the eyes. The thorax is subquadrate, about one-fourth broader than long; the anterior margin is straight; the sides are slightly rounded, but nearly straight towards the hinder part of the thorax; the greatest width is at the anterior third; the posterior margin is straight, and the posterior angles are very nearly right angles; the upper surface is nearly flat, being but very slightly convex, and thickly but rather finely punctured. The elytra are moderately elongated, but little broader than the thorax, and moderately convex above; the sides are nearly parallel, being very little dilated in the middle; the apical portion is rounded; they are punctate-striated, and the interstices are finely punctured; a series of small blackish spots is observable on each of the striæ; on other parts the very minute hairs which cover the elytra are brownish.

ADIORISTUS SIMPLEX. *Ad. piceo-niger, pilis fuscescentibus tectus; antennis piceis; rostro brevi, carinato, ad basin transversìm impresso; thorace rugoso-punctato, subcylindraceo, lateribus paulò rotundatis; elytris oblongo-ovatis, punctato-striatis, punctis aliquantò profundis, interstitiis ferè planis et punctulatis.*

Long. corp. et rostri, 3¾ lin.; lat. 1⅔ lin.

Hab. Valleys of Petorca.

A small species, about equal in size to *Phyllobius alneti.* The rostrum short and stout, being but little longer than the head, is furnished with a central carina and a carina on each side, which is less distinct, and the space between these ridges has longitudinal rugæ, which are partially hidden by the scattered hairs which cover this and all other parts of the body. The head is thickly punctured, and the punctures are confluent; a small oblong impression is observable between the eyes, and in front of the eyes is a transverse depression, separating, as it were, the rostrum from the head. The thorax is nearly cylindrical, broader than long, and slightly narrower behind than near the fore-part; the anterior and posterior margins are straight; the upper surface is thickly and rather coarsely punctured, and the punctures are many of them confluent. The elytra are of an elongated ovate form, convex, somewhat attenuated, but rounded at the apex; punctate-striated, the punctures moderately large and rather deep, and nearly joining each other; the interspaces between the striæ are nearly plane, indistinctly punctured in parts and slightly rugose; the minute but somewhat spiny hairs which cover the elytra are not sufficiently abundant to hide the sculpturing, and are semi-erect.

A species of the present genus is contained in Mr. Darwin's collection, which differs from either of the above: it is almost destitute of the small hairs which give the brownish colouring to the other species here described.

ADIORISTUS SUBDENUDATUS. *Ad. oblongus, niger, pilis minutissimis atque squamulis albescentibus adspersus; antennis tarsisque fuscescentibus; rostro carinato, punctulato; capite inter oculos transversìm impresso, crebrè punctulato; thorace subcylindraceo in medium paulò dilatato, punctis minutis impresso; elytris oblongo-ovatis, punctato-striatis, interstitiis paulò convexis, obsoletè punctulatis.*

Long. corp. et rostri, 6½ lin.; lat. 2½ lin.

Hab. Mendoza.

This insect is intermediate in size between the *Ad. punctulatus* and *Ad. angustatus*, and is readily distinguished from either of the species here described by its denuded appearance; the scales and hairs, which are sparingly scattered over the body, only become visible with the assistance of a moderately strong lens.

The rostrum is about twice as long as the head, very thickly though finely punctured, and the punctures are confluent; in the middle is a distinct carina. The head is separated from the rostrum by a transverse and somewhat shallow depression, and in the middle of this depression is a small fovea: the upper surface of the head, as well as the thorax, is very thickly and finely punctured, and the punctures are confluent. The thorax is rather broader than long, subcylindrical, truncated before and behind; the upper surface is slightly convex, and the sides are somewhat rounded, being slightly dilated a little in front of the middle. The elytra are of an elongate-oval form, moderately convex, somewhat attenuated at the apex, but with that part rounded; they are distinctly punctate-striated; the punctures are arranged closely together, and the interstices of the striæ are narrow, slightly convex, and very delicately punctured.

Cylydrorhinus angulatus.—Under this name M. Guerin-Meneville describes, in the 'Revue Zoologique' (No. 7, 1841, p. 217), a species of Curculio, from Port Famine, which I am inclined to regard as specifically identical with specimens brought by Mr. Darwin from St. Cruz and St. Julian.

M. Guerin states that the elytra are covered above with large deep punctures arranged in longitudinal striæ, at the base of each of which is a very small tubercle, and which are united together by an indistinct transverse impression.

In the specimens brought by Mr. Darwin, the elytra are deeply punctate-striate at the base, but from the base towards the apex the punctures gradually decrease in size; the minute tubercles are situated on the anterior margin of each puncture, and in addition to the striæ of punctures, the elytra are for the most part covered with somewhat irregular transverse rugæ; these are most distinct on the sides of the elytra (or rather what appears to be the side, for the elytra are strongly keeled at some little distance from the lateral margin, so that that part is hidden as we view the insect from above), less distinct on the apical portion, and do not extend to the disc. The apical portion of each elytron is slightly produced, and the elytra appear as it were terminated by a tubercle; near the apex, on each side, is another tubercle. The thorax has a distinct fovea on each side, in the middle and near the lateral margin. The size of the specimens from Port St. Cruz varies from length 9½ lin., width 4⅓ lin., to length 7¾ lin., width 3⅓ lin.

A specimen from St. Julian differs in being considerably smaller and more deeply sculptured, and in having a small patch of white scales near the apex of the elytra; the interstice between the fourth and fifth striæ is somewhat raised. Length 7 lines.

In the collection is a specimen, without label, which agrees with this variety, as I presume it is. Length 6½ lines.

Two out of three specimens from St. Cruz have pitchy red colour legs; in the third the legs are black. The specimen from St. Julian has also black legs.

Mr. Darwin found this Curculio "lying dead by thousands on all parts of the plains at St. Julian, both far in the interior and near the coast."

December 28, 1841.

No Meeting took place.

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